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for the drilling-producing-pipe line industry

PETROLEUM REFINER and The REFINERY CATALOG
for the refining-natural gasoline industry

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The OIL WEEKLY

ENGINEERING NEWS STATISTICS

R. L. DUDLEY, President, Publisher A. L. BURNS, General Manager

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THE CHANGING Panorama

Business Readjusting To More Stable Basis

WHILE there is talk of weakening prices, limited unemployment, and a threatened business recession, there is nothing strange or alarming in what is happening. The nation's economy is going through the adjustment that is a fundamental prerequisite to normal conditions and good business. At last the supply of things and services is not so seriously short of demand as to cause distress-buying without regard to price. The consumer is beginning to get a little more for his money. Seeing even better supply ahead, he can bargain on price at least to the extent of delaying purchases. As competition increases, efficiency and productivity go up, and prices come down further, the consumer's ability to purchase will be broadened. The ultimate result will be more and better goods and services, improvement in the standard of living, and benefit for the public and for business in general.

The traditional American system of free, competitive enterprise is proving itself quite equal to the occasion, and the definite prospect of more reasonable prices is the proof.

With smoothness and infallibility that make post-war bureaucratic manipulation of the economy appear crude and awkward by comparison, the partly but still not wholly emancipated competitive economy gradually is clearing up shortages and bottlenecks on all sides. The story is told by the headlines: More companies announce price cuts . . . Lumber prices slipping as building is deferred . . . Construction plans delayed until costs come down . . . Sugar piles up in warehouses . . . World rubber supplies may get burdensome . . . Big stocks worry vegetable canners . . . Soap prices decline further . . . Plenty of tuna being canned . . . Some labor in oversupply despite near-record employment . . . Higher prices bring forth larger supply of lead . . . Inventories of wholesalers and retailers increase . . . Rush for autos and radios tapering off.

Some of these developments mean uncertainties and troubles ahead for business—perhaps a let-down or recession. But all of them reflect the traditional workings of the competitive enterprise system. This system has provided high standards of living and prosperity in the past. Free of stifling governmental interference, it will do so again, upon a grand scale, in the coming decade, even if the presently occurring necessary readjustment should assume the form of a temporary business recession.

Individual Companies Aid Public Relations

THE industry's public relations program, stressing the progressiveness of the industry and the resultant great contribution to the public welfare, is going forward with promise of definite effectiveness.

Individual companies have undertaken public relations programs that should carry effectively to millions the theme, "Petroleum Promotes Progress."

As an example of individual company plans, Humble Oil & Refining Company, marketing petroleum products in Texas, will participate in the industry's public relations program through newspaper advertising, radio broadcasts, the company's own publications for its employes, and special mailing pieces to employes to enlist their cooperation in the program. The company will run company-signed advertisements in 75 Texas daily newspapers and in 350 weekly papers, emphasizing the basic ideas embodied in the API program. Humble's main effort will come next fall when it will bring the message forcefully and fully to its vast football audience by radio. On each of more than 30 games to be broadcast, there will be at least one full-length commercial announcement on the subject.

Oil Use Increasing In Numerous Fields

CONSIDERED one by one, the reasons for present record-breaking demand for petroleum and for prospective further increases add up to further broadening of transportation, increased mechanization, and preference for oil over coal as a fuel.

With benefit of large production of new motor vehicles, the number of automobiles, trucks, and busses in use is steadily increasing and will set new records around the end of this year, with trucks already far exceeding prewar. Aviation is undergoing a vast expansion and requiring much aviation gasoline. Farms are being mechanized upon a broad scale, making demand for gasoline, tractor fuel, lubricants, and other oils.

New homes in large proportion are being equipped with oil burners, while many older homes are substituting oil burners for wood or coal stoves and furnaces. Railroads show strong preference for diesel locomotives over coal-burning steam locomotives in purchasing new equipment, and are making other increased use of oil in lieu of coal. The use of bunker oil for vessels continues to increase. Electric power plants are using twice as much fuel oil as a year ago, finding oil more desirable and dependable than coal. The great back-log of demand for asphalt for road-building threatens a shortage of that product. Wax and other miscellaneous petroleum products are finding increased use.

☆

Although the U. S. has only 12 percent of the world's land area geologically favorable for the occurrence of petroleum, we have discovered about two thirds of all the oil found in the world to date. This is simply because any person in our country can win the rewards of finding oil; so there are more people looking for oil in America than there are in other nations.

—R. T. HASLAM, Vice President,
Standard Oil Company (New Jersey)

THE WEEK'S NEWS

TOP Government officials see the extent of oil shortages next winter dependent upon a number of factors, but view problem as "industry's baby"; shipments to Russia draw criticism in Congress. Story below.

Cotton Valley Field Operators Charged—The Department of Justice has filed a suit against operators in the Cotton Valley (La.) distillate field, charging violation of the anti-trust laws in the refining and marketing of products, but makes no charges against unit operation for production purposes. Page 29.

Sun Pushes Government in "Mother Hubbard" Suit—Sun Oil Company, declaring its interrogatory in the "Mother Hubbard" suit is designed to expedite the case, demands that the Government show that its charges were made in good faith by detailing offenders, times and places. Page 30.

Supreme Court Upholds FPC in Gas Suit—A Supreme Court decision upholding the Federal Power Commission in the Interstate Natural Gas Company case, holds commission has authority to fix prices for gas eventually going into interstate commerce. Gas industry spokesmen declare decision emphasizes need for clarification of the Natural Gas Act to keep independents and oil companies from withholding their gas. Page 28.

House Group to Open Co-op Tax Hearing July 7—With more than 200 witnesses clamoring to be heard, the House Ways and Means Committee will open hearings July 7 on the tax advantages of cooperative and non-profit organizations. Page. 29.

Interstate Oil Compact Extended—Without debate, the Senate last week ratified a four-year extension of the Interstate Oil Compact, carrying the agreement to September 1, 1951, and sent the measure to the House, where action is expected before July 1.

Coal Mine Gasification Experiment Reviewed—Bureau of Mines report coal-mine gasification experiment successful, but with large-scale demonstrations needed to show commercial practicability. Page 30.

Amendments Made to Leasing Public Lands—Interior Department has issued miscellaneous amendments to leasing regulations, covering acreage, over-riding royalties and transfers. Page 30.

Question of Military Supply Is Critical Problem—Participation by companies not heretofore interested in government business in bidding on military supplies urged by NPC as means of relieving critical situation. Page 27.

Permian Basin Tank Car Shipment Soar—Tank car shipments of crude from the Permian Basin sector of West Texas and southeastern New Mexico attained a new peak during the first week in June with an average of 63,600 barrels daily. Page 30.

Agencies Told Oil Product Shortages May Come but Situation Not Serious

Given a half-dozen "ifs," next winter's difficulties of oil consumers will be relatively minor, it was concluded last week by officials of a number of Federal agencies following a review of present and prospective conditions.

But if some of those "ifs" do not work out, local deficiencies may develop into general shortages.

Outlining the results of an all-morning conference in which representatives of the White House, nearly a score of Federal agencies and two industry members, Howard Page of Standard Oil Company (New Jersey) and John Boatright of Standard Oil Company (Indiana) participated, Max W. Ball, director of OGD summarized the situation thus:

"If everything works out just right—no strikes in refineries or elsewhere in the industry; if present strikes are settled soon; if the maritime strike is settled soon and does not extend to oil tankers; if we have no coal or railroad or steel strikes; if the tankers operated by the government under charter and general agency agreement do not go out of service; if additional U. S. tankers are sold to foreign registry; if we get some steel for the manufacture of tank cars and pipe lines — both urgently needed; and if, finally, we don't have too severe a winter — then we should get through the next twelve months with nothing more than local spot shortages, most confined to the Midwest, of natural gas, gasoline, fuel oils (distillate and residual) and liquefied petroleum gas."

But, he added, if only one or two of these "ifs" don't work out, spot shortages will become general, and if Congress does not extend Maritime Commission tanker operations after June 30 the country's economy "will go into a tailspin." About 1 million barrels a day, or 20 percent of the country's total crude and products, is being moved by the 260 government tankers now in service, Ball said.

Because the government is without powers which, during the war, enabled it to direct operations, the problem is one for the industry, which already is working at its maximum rate under present handicaps.

A difference of as little as ten degrees in temperature next winter may mean a lot, it was brought out, but Interior Secretary Krug declared there is no real basis for "public hysteria."

The conference developed these factors:

Refinery capacity of 90,000 barrels a day is being lost as a result of current strikes which until recently were causing a loss of 220,000 barrels daily.

The sale of more tankers for foreign registry, which has State Department approval, would permit movement of oil from the Persian Gulf to Europe and relieve oil shipments from the Caribbean.

Government agencies, both military and civilian, are encountering difficulty in obtaining requirements and will be short for the next 18 months. Orders have been issued by the Navy calling for economy in the use of aviation gasoline and restrict flying operations. The voluntary allocation of more products by each company may be a last-resort solution.

The basis of the whole situation is the shortage of steel.

ODT officials reported that in the first five months of this year, 612 high-pressure tank cars were added to the fleet, making a total of 3146 cars. Two producers have sufficient steel to deliver 200 cars a month during the remainder of the year, raising the fleet to 4546 cars by January 1.

With reduction in transportation of butane and butadiene by Rubber Reserve, it is anticipated 200 intermediate-pressure cars owned by the RFC will be released for liquefied petroleum gas during the summer months and butane-propane mixtures during the winter. NPC estimates that 7500 new low-

WORLD OIL ATLAS . . . NEXT WEEK

THE second annual edition of the World Oil Atlas will appear next week as a supplement to the regular issue of The OIL WEEKLY.

The 1947 Atlas, only publication of its kind, will be larger and more complete than the first issue last year. Its 376 pages will contain 75 maps, reproduced in four colors, of the world's oil producing countries. Map information and statistics were compiled by staff writers from material furnished by oil companies and governmental agencies throughout the world.

Production, completion and geological information is shown on individual fields while special pages carry tables on foreign exchange and measurements.

pressure cars should be delivered during 1947-48.

Tank truck movement could be increased if 24-hour operation, practiced during the war, could again be made effective, releasing rail cars from short-haul traffic.

The situation with respect to individual products was outlined as follows:

Natural Gas: Shortages are certain next winter from the Appalachians to west of the Missouri River. If the winter is a severe one, industries will be shut down, men thrown out of work, homes unheated and meals uncooked. The Midwest will suffer the most; the East should get by without hardships.

Gasoline: Supplies depend on summer consumption. If the tourist season is unusually heavy and if nice weather prevails, gasoline shortages are likely in August in some sections. No general shortage of gasoline is seen so far as the public is concerned. Some gasoline stations may be forced to close for lack of supplies, but consumers will be able to get their gallonage at other stations.

Distillate fuels: Impact of shortages will be felt the most in mid-winter. The tight spots will be in the Midwest, where closed industries and unheated homes might occur if some of the "ifs" fail.

Residual fuels: Both the East and the Midwest face shortages, and one blast furnace in the latter area already has been closed due to scarcity of oil.

While high government officials were expressing concern over domestic shortages, reports from California of a heavy movement of oil and gasoline to Russia brought critical comment from members of Congress who were aware that the military had been unable to secure their West Coast requirements.

Representative Ross Rizley of Oklahoma said it appeared "rather incredulous and unusual" that oil was being shipped with the apparent knowledge and acquiescence of the State Department at a time when the United States was supposed to be establishing a "get-tough" policy with Russia.

Other members, while critical, said the shipment was a private matter between the oil companies and Russia and there is nothing the government could do about it since there are no restrictions against the sale of oil to any foreign country.

Panhandle Association Names O'Brien President

C. L. O'Brien was elected president of the Panhandle Producers and Royalty Owners Association at the annual meeting in Amarillo last week. Other officers elected were H. D. Thompson and C. J. Oates, vice presidents; F. V. Wallace, secretary, and Lester Wiles, treasurer.

A resolution was adopted endorsing the Rizley-Moore bill which would amend the Natural Gas Act. Speakers at the meeting included H. J. Porter of Houston; State Senator Grady Hazlewood, W. J. Murray, Jr., and E. O. Thompson, members Texas Railroad Commission, and Hiram Dow, chairman, Interstate Oil Compact Commission.

Wider Participation in Bidding For Military Oil Supplies Urged by NPC

Participation by companies not heretofore interested in government business in bidding on military supplies was urged last week by the National Petroleum Council committee on military and government requirements.

Army and Navy officials and the Federal Bureau of Supply had complained that the industry was not offering products in quantities sufficient to meet requirements.

Committee recommendations included modification of bid requirements, alterations in specifications and elimination of "red tape." However, Army-Navy Petroleum Board officials cited that they were bound by legal requirements as to bids and in no event intended to take "secondary" products.

Critical Problem

The question of military supply is the most critical problem the Council has been called on to consider, W. S. Hallanan, NPC chairman, said.

Military officials expressed regret over what they said was the failure to make definite specific recommendations, but the committee pointed out that the problem is complicated by shortage of all transportation media.

The Federal Bureau of Supply took the position that companies which held contracts during the fiscal year 1947 "are morally bound to bid to retain that business during the fiscal year 1948, unless they anticipate liquidation."

Needs Are Estimated

An estimate of the fiscal 1948 needs of the Navy, Army and Air Forces submitted to the committee by the ANPB showed total requirements for the year will be 106,279,800 barrels, of which 81,799,800 barrels will be required from the United States, 4,680,000 from the Caribbean and 19,800,000 from the Persian Gulf. Caribbean requirements consist of 1,080,000 barrels of Navy diesel and 3,600,000 other heavy fuels, and Persian Gulf requirements include 10,800,000 barrels of Navy special, 6,120,000 Navy diesel and 2,880,000 motor gasoline.

Major items in total requirements are 34,650,000 barrels of Navy special, 17,733,200 other heavy fuels, 13,176,000 Navy diesel, 9,879,600 motor gasoline, 7,183,600 other diesel fuels, and 15,499,000 barrels of aviation fuels.

This report indicates that residual fuel oil coverage from the Persian Gulf will be 1,500,000 barrels in excess of previous estimates, reducing by that amount requirements from U. S. and Caribbean sources, for both the first and second quarters of the fiscal year. No coverage from the Persian Gulf was shown for the third and fourth quarters of the year, but the committee understands it is reasonable to expect offers will be made for those periods at a later date.

IPAA Sees No Immediate Over-All Shortage of Oil

No danger of an over-all shortage of oil is seen by the supply and demand committee of the Independent Petroleum Association of America for the next nine months, at least, but resourceful efforts by the industry will be required to avoid and minimize spot dislocations of supply and demand.

This view has been submitted in a report to the Interstate Oil Compact Commission, in which it was disclosed that while April and May demand closely followed the committee's estimate of five to six percent in excess of the same period last year, the new petroleum supply has been somewhat larger than was forecast.

The committee estimated that domestic production for the current quarter would average more than 5 million barrels daily, while imports are likely to continue to exceed 400,000 barrels a day which, with production of 350,000 barrels daily of natural gasoline and benzol, would give a total new supply close to 5,850,000 barrels daily as compared with the committee's earlier estimate of 5,650,000 barrels.

Meanwhile, the association's special committee on materials, at a recent meeting in Dallas, declared that the main obstacle to the maintenance of sufficient current production is the shortage of steel products used for development, transportation, refining and distribution, especially casing and tubular goods.

In a telegram to Secretary of the Interior Krug, the committee advised that the results of its study showed that until sufficient materials become available, local areas now affected by the petroleum shortage can expect no relief, and urged that Krug prevail on his associates "to discontinue the present priority policy of exporting to foreign nations materials badly needed by our petroleum industry until domestic requirements have been met."

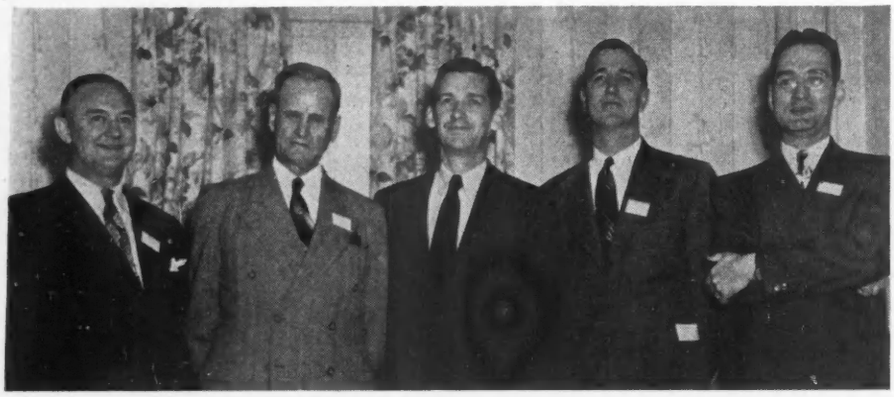
The committee further recommended that during the present shortage consideration be given to requests to state regulatory bodies to revise the casing program where possible to minimize pipe requirements, increasing protection by other means but "with due regard to safety factors involved."

Senate Group to Resume Anglo-American Hearing

The Senate Foreign Relations Committee will resume its hearings on the Anglo-American Petroleum Agreement today and hopes to wind them up before nightfall.

Only a half-dozen witnesses who secured permission at the hearing earlier this month to defer their testimony until they had an opportunity to study the various reservations which are to be incorporated in the agreement are scheduled to be heard.

Officers API Mid-Continent Section



Officers elected at the recent meeting of the Division of Production, Mid-Continent section, American Petroleum Institute, held at Amarillo, Texas, are shown above. They are, left to right: R. P. Moscrip, Shell Oil Company, Wichita, Kan., vice president for Kansas; J. R. Phillips, Borger, Texas, vice president for Panhandle area; W. L. Horner, Barnsdall Oil Company, Tulsa, chairman; J. H. Field, Sohio Petroleum Company, Oklahoma City, vice president for Central Oklahoma, and J. H. Abernathy, Big Chief Drilling Company, Oklahoma City, secretary-treasurer.

Supreme Court Affirms Authority Of FPC in Interstate Gas Rate Case

Narrowing the field of "production and gathering" exempt from control under the Natural Gas Act, the Supreme Court last week affirmed authority of FPC to order reductions in rates at which gas from the Monroe field is sold by Interstate Natural Gas Company to the Mississippi River Fuel Corporation, Southern Natural Gas Company and, for the account of the Memphis Natural Gas Company, United Gas Pipe Line Company.

Passing on the case, which has figured largely in arguments before Congressional committees considering the Rizley bill to amend the Natural Gas Act, the court held; in essence, that the gas involved was destined from the time of production for consumption in states other than where it was produced and its sale, without regard to whether it was made from the company's gathering lines or transmission lines or whether the gathering process continued to the point of sale or, as the commission found, was completed at some point prior to the surrender of custody and passage of title, was a sale in interstate commerce.

Vinson Comments

"Unreasonable charges exacted at this stage of the interstate movement become perpetuated in large part in fixed items of cost which must be covered by rates charged subsequent purchasers of the gas including the ultimate consumer," Chief Justice Fred M. Vinson commented in delivering the unanimous opinion of the court. "It was to avoid such situations that the Natural Gas Act was passed."

Justice Vinson pointed out that Interstate did not originally contend the sales were not in interstate commerce and raised that issue for the first time in seeking a rehearing in the Circuit Court of Appeals.

"Clearly," he said, "the sales in question were a part of commerce being carried on between points in Louisiana and points in other states. There is nothing in that language (of Section 2 (7) of the Act) to suggest that Congress intended that sales consummated before the gas crosses a state line should not be regarded as being 'in' such commerce.

"Nor are we impressed with the suggestion that the interstate movement of the gas should be regarded as beginning when the gas, theretofore moving through petitioner's pipe line system at well pressure, is subjected to increased pressure in the compressor stations of the purchasing companies in order that the gas may be moved to the distant markets. Long before the gas reaches the compressor pumps it has been committed to its interstate journey which follows without interruption or deviation. Under such circumstances, the increase of pressure in the compressor stations must be regarded as merely an incident to the interstate commerce rather than as its origin."

The court pointed out that in denying the FPC jurisdiction to regulate production or gathering "it was not the purpose of Congress to free companies such as petitioner from effective public control."

"The purpose of that restriction was, rather, to preserve in the states powers of regulation in areas in which the states are constitutionally competent to act," it said, later commenting there is nothing in the record to regulate that the commission's action was in any way inconsistent with the exercise by Louisiana of the powers over production and gathering reserved to it in the act, nor did the state oppose the jurisdiction of FPC in this case or urge federal regulation of these sales would interfere with the exercise by the state of its regulatory functions.

Commenting on the decision, John A. Ferguson, executive director of Independent Natural Gas Association of America, said it emphasizes the need for prompt clarification of the Natural Gas Act to specifically define "the restricted area of FPC jurisdiction with reference to production and gathering of natural gas."

The decision, Ferguson declared, means a producer with a single oil or gas well, who sells gas which eventually crosses a state line, is a natural gas company.

Ferguson pointed out that FPC Chairman Nelson Lee Smith, testifying before the House Interstate and Foreign Commerce Committee last month, said in the event of a favorable decision in the Interstate case so broad as to imply that the law means the commission does have control over the independent producer and gatherer, the FPC would have no basis for objecting to clarification.

Looks for FPC Aid

In light of that statement and the broad terms of the decision, Ferguson said, "I confidently expect FPC will join with us in requesting Congress to clarify the act so as to properly confine the jurisdiction of the FPC to the area in which Congress originally intended it should administer."

Fear of Federal Control Cited in Flared Gas Case

Fear that the state of Texas may lose its oil and gas regulatory power unless strict conservation is practiced was expressed by Attorney General Price Daniel during oral arguments before the Texas Supreme Court last week in one of the most important proration cases in years. The suit grew out of a Railroad Commission order providing that no oil could be produced from the Seeligson field of Jim Wells and Kleberg counties unless all gas produced incident thereto were utilized for legal purposes.

Field operators, led by Shell Oil Company, won a temporary injunction against enforcement of the order in the 126th District Court in Austin. The appeal direct to the Supreme Court is under a seldom used law which permits this procedure in cases involving the validity of a state law or regulation of a state agency.

The state contended at the Supreme Court hearing that the Railroad Commission has the authority to issue an order against the flaring of casinghead gas—that to hold otherwise would be an open invitation to federal control. The appellees asserted that wartime conditions have made it impossible for the operators to conserve the 30 million cubic feet, containing some 41,160 gallons of liquid, which is flared daily—that it is not wasteful to flare this resource since its principal purpose in life is to lift the oil to the surface.

Cotton Valley Operators Are Charged With Violations of Anti-Trust Law

The Department of Justice has filed a suit in the Federal District Court at Shreveport, charging the Cotton Valley Operators' Committee, 15 corporations and 18 individuals with violation of the anti-trust law in the processing and refining of products from wet gas and their subsequent sale.

The Cotton Valley field is a unitized field, operated under an agreement entered into in 1939. The federal government has a small interest of two 40-acre tracts, which are under lease. The government does not charge ony illegalities in connection with the unit operation of the field, but is attacking an alleged unlawful agreement to engage jointly in and to exclude others from the business of extracting, processing and refining hydrocarbon products produced in the field, alleging a similar illegal agreement to restrict the distribution and sale of the products through selected channels and upon fixed and uniform prices, terms and conditions of sale.

Announcing the filing of the suit Attorney General Tom Clark emphasized that it does not attack the joint activity by the defendants in the production of the wet gas, removal of the hydrocarbons, or the maintenance of underground pressure through a re-injection of a part of the dry gas back into the underground reservoir, "or any activity which is necessary or essential to the conservation of natural resources or to the prevention of waste."

The unit agreement under which the field is operated does not extend to the activities of which the government complains, but covers only those to which Clark referred, providing that the hydrocarbons produced are to be apportioned among the various producers in the field.

Named by the department as defendants, in addition to the Cotton Valley Operators' Committee, are The Ohio Oil Company, Findlay, Ohio; Hunt Oil Company, Dallas; Magnolia Petroleum Company, Dallas; Union Producing Company, Shreveport; Fohs Oil Company, Houston; Bodcaw Cotton Valley Company, Inc., Texarkana, Ark.; Grant Oil Company, Shreveport; Midstates Oil Corporation, Tulsa; North American Oil Consolidated, San Francisco; Root Petroleum Company, Shreveport; Woodley Petroleum Corporation, Houston; Jabco, Inc., Shreveport; Stanolind Oil and Gas Company, Tulsa; Sunray Oil Corporation, New York; Welori Lumber Corporation, Cotton Valley, and 18 individuals.

The suit, Assistant Attorney General John F. Sonnett, head of the anti-trust division, explained, seeks to enjoin the defendants from engaging jointly in extracting, processing and refining products taken from the field, except in so far as such artivity is essential to the separation of liquid and gaseous products from the wet gas and re-injection of the residue into the field for purposes of further production, and also to enjoin price-fixing and illegal distribution practices.

This was the second move against the oil industry within a week, the department earlier having announced a grand jury investigation at Los Angeles into price increases on gasoline in the Mountain States and Pacific Coast area during the past year. The purpose of that inquiry, Clark said, is to determine whether the increases were the result of concerted action by a few companies which occupy a predominant position in those markets.

U. S. Imports of Crude Oil During April Drop Sharply

Imports of crude oil in April dropped to the lowest figure since last November, amounting to 7,846,000 barrels against 9,388,000 in March, and due to the shorter month receipts of refined products also dropped, to 5,907,000 barrels from 6,250,000, it is reported by the Census Bureau. The bulk of the prodacts imports are residual fuel oil, of which 5,571,000 barrels was received.

For the first four months total imports were 57,800,000 barrels against 43,928,000 barrels in the corresponding period last year, of which 33,889,000 barrels was crude, against 29,848,000, and 23,911,000 barrels refined products, against 14,079,000.

Crude Oil Production in the United States

(Estimates compiled by THE OIL WEEKLY. All figures indicate daily averages in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED June 21	June 14
Alabama	1,250	1,200
Arkansas	75,750	74,600
California	915,200	917,400
Colorado	40,500	40,000
Flordia	140	1,050
Illinois	186,000	190,400
Indiana	18,500	17,000
Kansas	294,150	280,500
Kentucky	25,750	25,500
Louisiana	418,200	418,400
North Louisiana	96,800	97,000
South Louisiana	321,400	321,400
Michigan	50,000	40,000
Mississippi	97,050	95,500
Missouri	100	100
Montana	24,000	20,000
Nebraska	550	600
New Mexico	106,450	106,450
New York	13,200	13,200
Ohio	8,800	8,500
Oklahoma	389,900	388,150
Pennsylvania	34,800	34,800
Tennessee	25	25
Texas	2,288,950	2,288,950
Tex. R. R. Comm. Districts		
Dist. 1. South Central	21,650	21,650
Dist. 2. Middle Gulf Coast	166,550	166,550
Dist. 3. Upper Gulf Coast	494,475	494,475
Dist. 4. Lower Gulf-S.W.	247,725	247,725
Dist. 5. East Central	39,950	39,950
Dist. 6. East Texas Field	334,000	334,000
Dist. 6. Rest of Northeast	116,100	116,100
Dist. 7-B. North Central	39,500	39,500
Dist. 7-C. West Central	39,000	39,000
Dist. 8. West	560,750	560,750
Dist. 9. North	141,500	141,500
Dist. 10. Panhandle	87,750	87,750
Virgina	200	200
West Virginia	7,700	7,400
Wyoming	120,000	115,500
Total United States	5,117,165	5,085,425

Relief from Commerce Act Sought by Water Carriers

A three-year extension of the rule granting an exemption from the requirements of Part III of the Interstate Commerce Act to contract carriers by water engaged in the leasing or chartering of vessels for the transportation of oil field equipment to and from the marshland oil fields of Louisiana and Texas is under consideration by the Interstate Commerce Commission.

The rule, adopted in August, 1941, at the request of water carriers and oil companies, to meet unusual conditions involved in the development and operation of these fields, was extended for three years in August, 1944.

The exemption would apply to contract carriers' leases or charters for the transport of machinery, materials, supplies, and equipment incidental to, or used in, the construction, development, operation, and maintenance of, facilities for the discovery, development and production of natural gas and petroleum in the marshland oil areas.

AIME Group Plans Parley On Improvement of Data

Plans for expansion and improvement of published statistics on oil and gas development and production will be discussed at a meeting of the Production Review Committee, petroleum division, American Institute of Mining and Metallurgical Engineers, to be held in Dallas, June 26-27.

The meeting will be attended by E. G. Dahlgren, Interstate Oil Compact Commission, Oklahoma City, chairman; D. V. Carter, Magnolia Petroleum Company, Dallas, vice chairman; E. P. Hayes, The Texas Company, Houston; Alec M. Crowell, Texas Eastern Gas Transmission Company, Shreveport; G. E. Eddy, Michigan Department of Conservation, Lansing; Ray P. Walters, Standard Oil Company (New Jersey), New York; John H. Murrell, DeGolyer & MacNaughton, Dallas, and William H. Strang, AIME, Dallas.

This committee is responsible for the publication each year of the AIME statistical volume on worldwide development and production. The growing need for a basic statistical register on production of all raw hydrocarbons will be a topic of discussion by the committee, and plans for inclusion of more such material in future publications will be formulated. Plans will also be made for organizing and collating gas production and gas reservoir information now available only from separate sources.

Co-ops Tax Hearing Set

The highly controversial tax exemptions of cooperative associations and other non-profit organizations will be studied by the House Ways and Means Committee in hearings which have been scheduled to start July 7.

The committee's study is not aimed at the farmer cooperatives or consumer cocooperatives as such, but will deal with the profit-making activities of such organizations as well as labor unions, churches and foundations.

Tank Car Shipments of Crude From Permian Basin Soar to Peak in June

Tank car shipments of crude from the Permian Basin sector of West Texas and southeastern New Mexico attained a new peak during the first week in June with an average of 63,660 barrels daily. This movement is equivalent to the capacity of a 12-inch trunk line, and it will continue until projected new trunk lines and loops become available.

Rail shippers of crude have set a goal of some 80,000 barrels daily, but it is now doubtful if this will be possible since the available supply of tank cars is inadequate, while about 10 percent of the cars now in this service are reported to be in bad order.

Atlantic Pipe Line Company's Midland rack averaged 56,075 barrels daily, including 33,750 barrels daily loadings for Humble Pipe Line Company, which has set aside 50,000 barrels daily for rail movement if cars are obtainable. This rack handled 10,200 barrels daily for consignment to The Texas Company at Houston and initial shipments for Magnolia Pipe Line Company averaged 7100 barrels daily to Fort Worth.

The remainder of the oil traffic from Midland was consigned to Atlantic at Longview, Texas.

New Mexico Asphalt and Refining Company, operator of a refinery and crude gathering system in the Artesia district, New Mexico, averaged 400 barrels daily in making initial shipments on a 1-year contract to supply the Apex Motor Fuel Company, Chicago, with 12,000 barrels monthly of asphalt-grade crude from Eddy County fields. Sinclair Refining Company is maintaining its contract schedule of 1800 barrels daily of New Mexico crude to Canadian refineries, using the Texas New Mexico Pipe Line Company's Jal rack for loading.

Senate Votes More Funds For OGD and Mines Bureau

Providing funds for continuance of non-enforcement activities of the Oil and Gas Division and increases in allotments to the Bureau of Mines and Geological Survey, the Senate last week passed the Interior Department appropriation bill for 1948 and sent it to conference.

The Senate plan to give OGD $324,730 for enforcement of the Connally Hot Oil Act and the activities assigned it by Secretary Krug, as against the $124,000 provided by the House specifically for enforcement, was agreed to with no discussion other than an expression of regret by Senator Tom Connally of Texas that the appropriations committee had not earmarked $218,900 for enforcement of the hot oil law, as sought by the division.

However, Connally pointed out, since the appropriation is merely a lump sum for two purposes, OGD may be able to adjust the situation, provided the House agrees to the $200,730 increase. The amount originally sought for the division was $463,900.

The Senate, also without debate, increased the appropriation for the Geological Survey from $9,113,230 to $10,256,340 and that for the Bureau of Mines from $10,983,875 to $11,976,850.

In dealing with the Bureau of Mines, the Senate increased the fund for oil and gas investigations from $579,000 to $634,550.

Justice Department Asked To Clear Charges by Sun

Sun Oil Company last week called on the Department of Justice to show that the charges leveled in the "Mother Hubbard" suit were made in good faith.

In a statement filed with the District of Columbia Federal District Court in support of the interrogatory filed a year ago, to which the department objected last month, Sun declared the complaint to which the interrogatory was directed was so loosely drawn that they do not indicate which of the 366 defendants originally named are charged with specific offenses.

"Presumably the complaint was prepared in good faith," the statement said. "If it were, plaintiff has the information at hand to supply the particulars desired as to this defendant. Certainly plaintiff cannot contend, at this stage, that such information is not available or that it is not reassembling such information for use at the trial.

"If, on the other hand, all or some of the charges against this defendant have been recklessly made, and without supporting data, then it owes an immediate duty to this defendant and to the court to acknowledge the fact and to reduce the case to its proper proportions."

Sun attorneys also took the opportunity to lash out at the department's efforts to cover all defendants by "catch-all" charges, pointing out that the complaint charges a great number of conspiracies involving all phases of the industry, but with one or two exceptions are leveled indiscriminately against the defendants as a group, and these offenses "if committed by any of them, cannot in the nature of things have been committed by them all."

Sun defended its interrogatory as designed to speed up the trial, which otherwise, it declared, will drag on for months, and asserted the course followed by the Justice Department "will end in something like procedural chaos."

Gulf to Boost Oil Supply

Gulf Refining Company will increase its deliveries of Baxterville, Mississippi, crude to Chalmette Petroleum Corporation's refinery near New Orleans from 2000 barrels to 3000 barrels daily on July 1 on contract entered into on April 1 for remainder of the year. Deliveries are made by tank cars. Gulf is supplied with kerosine and bunker fuel during the life of the contract.

Leasing Regulations for Public Lands Are Amended

A number of miscellaneous amendments to the leasing regulations for public lands have been issued by the Interior Department, including one providing that land within the known geologic structure of producing fields must be leased by competitive bidding in units not exceeding 640 acres, while other lands may be leased in maximum units of 2560 acres, but no single lease will be issued embracing lands which cannot be included within a six mile square area, and tracts which cannot so be included shall be covered by two or more leases.

The new rules provide that any agreement to create over-riding royalties or payments out of production which, when added to over-riding royalties or payments out of production previously created and to the royalty payable to the United States, aggregate in excess of 17½ percent shall be deemed a violation of the terms of the lease unless such agreement expressly provides (a) that the obligation to pay such excess royalties or payments will be suspended during periods when the average production per well per day is 15 barrels or less, and (b) that such suspension will apply separately to any zone or portion of a lease segregated for computing government royalty.

All instruments of transfer of lease or an interest therein, including assignments of record title, working or royalty interests, operating agreements and subleases, must be filed for approval within 90 days from the date of final execution, and the assignor or sublessor and his surety will continue to be responsible for the performance of any obligation under the lease until the assignment or sub-lease is approved.

Tests Producing Gas from Firing Coal Inconclusive

The Bureau of Mines' experiment in the firing of a coal mine to produce gas was successful beyond expectations but was inconclusive in proving the practicability of producing gas underground, it was brought out last week at a meeting of government, military and industry scientists to review results of the mine-burning essay at Gorgas, Ala., by the Bureau and the Alabama Power Company.

So far as the underground results were concerned, the experiment was successful, Bureau engineers reported. The coal burned out clean without wastage and the shale roof, particularly favorable for underground gasification, expanded and settled in the space left by the consumed coal, without subsidence of the over-burden. The method followed to keep the fire from spreading to adjacent coal beds, however, proved to be inadequate.

Scientists attending the conference agreed that underground gasification might provide a cheaper fuel for electric power generated at the mine, simplify transportation of fuel energy and provide new materials for the manufacture of synthetic liquid fuels and chemicals.

Intense Exploratory Oil Activities Embraced in YPF's 5-Year Program

Intensification of exploration activities and a program of industrialization which will absorb increased production of refined oils and fuels is announced by Yacimientos Petroliferos Fiscales, government-owned oil monopoly in Argentina, as its share in that country's "5-year program."

YPF contemplates a plan of activities during 1947-51 which is intended to tie into the economic pattern outlined by the Peron government and which calls for greater crude oil production as well as enlargement of current refinery capacity.

YPF has pledged itself to: supply adequate petroleum products of high quality; and achieve as far as possible complete independence from foreign sources of supply insofar as it is compatible with the maintenance of necessary reserves to supply the armed forces and essential public services as well as fundamental industrial requirements.

The plan embraces all phases of the nation's petroleum industry and outlines the following steps: an intensified search for new oil fields; increased oil production to meet the nation's growing requirements for combustibles; increase refining capacity and modernization of existing plants to meet internal markets; acquisition of a tanker fleet sufficient to meet the nation's demands, and increased storage and pipe line facilities.

Objectives outlined by YPF include:

Exploration—Geological and geophysical studies of approximately 1½ million acres to determine petroliferous possibilities. This area represents about 40 percent of the superficial area of the country which has not yet been studied or which has been mapped and primarily considered unfavorable for oil accumulation.

Drilling—The plan provides for the drilling of 128 stratigraphic tests and 186 exploratory wells.

Exploitation—Increase in production from about 16 million barrels which is anticipated this year, to about 25 million barrels in 1951. In order to achieve this increase the plan calls for the drilling of 1500 wells during the next five years. At the same time it is expected to prove reserves equal to the amount produced during the five-year period.

Industrialization—YPF plans to build a new refinery which will produce high-octane gasoline to supply Buenos Aires and environs and the new plant is expected to go into operation in mid-1948 with a capacity of about 7½ million barrels annually. Modernization of La Plata refinery so as to produce high quality lubricants also is planned.

Brazil's April Oil Flow Shows Sharp Decrease

Crude oil production in Brazil during April totaled 7731 barrels, a sharp decrease from the 8964 barrels produced during March. Brazil's production for the first four months of 1947 amounted to 34,304 barrels.

Major producing area in Brazil is the Candeias field where nine wells during April flowed 6781 barrels. Two wells in the Aratu field produced 219 barrels, while the two wells in the Lobato-Joanes field flowed 731 barrels. No production was listed for the Pitanga and Itaparica fields.

Chile Seeks Refineries

The Chilean government is seeking to buy one or two oil refineries from Britain, reports from Santiago say, adding that British representatives have been invited to come to Chile for discussions.

Negotiations are said to be under way with the United States for the purchase of a refinery. The proposed plants would be located in southern Chile where production has been established on Terre del Fuego at the Springhill field.

Two oil wells have been completed in the Springhill field while a well originally completed as a gasser is reported to now be making oil. Because of lack of storage and transportation, the wells are shut in.

Flood of Middle East Oil May Not Develop—Suman

The concern of many crude oil producers in the United States that this country may be flooded with cheap crude oil from Venezuela, when Middle East oil fields start supplying the European market, may not materialize, John R. Suman, New York City, vice president of Standard Oil Company (New Jersey), indicated at a meeting of crude oil production accountants in Tulsa.

Suman told the group, representatives of Standard and its foreign and domestic affiliates, that the "look ahead" men of his company believe when Middle East crude oil production is increased to an extent that fields there can supply the European market, now largely supplied from Venezuela, crude oil from Venezuela will be needed in the Western Hemisphere.

The executive stated that Argentina and Brazil, as well as many other South American countries, need oil now, and their requirements are expected to increase. It will be about 1952 before all new lines projected for Saudi Arabia and other points in the Middle East are completed, and it is expected that by that time, demand for oil in the Western Hemisphere will be enough to absorb all the production of Venezuela and all the oil that country has been exporting to Europe.

Interesting Wildcat Developments Reported from Areas in Colombia

Colombian Petroleum Company's Tibu 49-K, a Cretaceous test on the north side of the southern feature of the Tibu field, Barco concession, Colombia, has found definite oil showings in the La Luna member of the Cretaceous, above the Uribante zone. The La Luna is one of the producing zones in the Petrolea field on the Barco.

The 49-K went into the top of the La Luna at 7400 feet, at which it immediately started developing considerable pressure and tried to blow out. A string of 9⅝-inch protection casing was set before coring ahead. During time it was conditioning mud it had good showings of oil on the ditch.

Texas Petroleum Company and Socony Vacuum Oil Company's El Tablon 1, originally drilled to 9934 feet, was plugged back to sidetrack after getting drill stem stuck. It is coring and drilling below 7800 feet at about which point the electric log had indicated possibilities of oil sand in the Tertiary. Previously a drill stem test of sand at 7095-7115 feet had shown gas at an estimated rate of 18,000 Mcf daily with no fluid oil. Casing was set at the top of the gas sand before drilling ahead. The well is on a seismograph geophysical prospect, believed to be a faulted anticlinal structure, and showings in this well have virtually assured eventual drilling of another test if this one fails to produce.

In northwestern Colombia, in the Sinu area, Sinu Oil Company's Floresanto 10 is reaming hole to 10,276 feet and likely will set protection casing before drilling ahead. The well will probably go ahead to 12,000 feet, or the limit of the rig. At the present depth it is said to be still in the Oligocene.

Compania Unidas de Petroleo (Sinclair-Cities Service-Richfield) is well along on construction of its wildcat base camp on the San Andres property northwest of El Tablon, and has most of the drilling equipment moved in for the first test scheduled to start this month. Location has been worked out from surface geological work, but falls close to two old wells drilled 20 years ago by Gulf organization. These reportedly had oil showings as shallow as 600 feet. Extensive oil and gas seeps are in the area. Texas Petroleum Company has recently signed contracts covering the Sahagun concession.

Another wildcat for the Lower Magdalena Valley area is scheduled to spud this month on Texas Petroleum Company's Remolino concession, 25 miles southeast of Barranquilla.

Tropical Oil Company and others' wildcat on the Granada block, which recently started drilling following abandonment of the deep test on the Costa Rica concession to the northeast, blew out from about 3300 feet, and caught fire, destroying derrick and equipment.

FPC Authorizes TET to Install Four Compressor Units on Big Inch Lines

The Federal Power Commission has authorized Texas Eastern Transmission Corporation to install four compressor stations on the Big Inch lines, two of them to be centrifugal blower type, instead of three stations as authorized last March. The four stations will provide a total of 28,000 horsepower as against 18,000 horsepower contemplated for the original three and will increase the delivery capacity of the lines to 265,000 Mcf daily as against 250,000 Mcf. It is also estimated that the four stations can be built for $500,000 less than the $3,500,000 estimated for the original three, because of the lower cost of centrifugal blowers which, however, will compress the gas equally as efficiently as reciprocating type compressors.

The commission also has fixed a new allocation of TET gas for the period ending November 1, on the basis of present capacity of 140,000 Mcf. daily, under which Panhandle Eastern Pipe Line Company will get 20,000 Mcf; United Natural Gas Company, 10,000 Mcf; Columbia Gas System, 52,800 Mcf; Consolidated Natural Gas System, 44,000 Mcf; Equitable Gas Company, 11,000 Mcf, and Carnegie Natural Gas Company, 2200 Mcf.

A study of the situation in the Appalachian area by the commission indicated that expected deficiencies in supply, excluding deliveries from TET, will amount to 254,753 Mcf daily by December and reach a winter high of 327,950 Mcf in February, then dropping to 239,041 Mcf in April, thereafter Jumping to 320,508 Mcf in June.

Northern Natural Hearing On Midwest Line Delayed

The Federal Power Commission has postponed until October 13 a scheduled hearing on an application of Northern Natural Gas Company for construction of facilities, including 582 miles of 20 to 26-inch pipe line in Kansas, Nebraska and Minnesota, with compressor, dehydration and other facilities, at a cost of $24,500,000, planned to increase the company's pipe line capacity to 580,000 Mcf daily.

But the commission gave Northern Natural Gas Company permission to construct facilities and sell natural gas to Northern States Power Company for resale in St. Paul, South St. Paul, West St. Paul, and Rosetown, Minn., a service to begin immediately upon completion of previously authorized facilities to increase Northern Natural's system capacity to 407,000 Mcf daily. The new facilities include measuring stations and meter runs. Cost is estimated at $48,331.

Lone Star Requests Bids On Eden Field Extension

Lone Star Gas Company has requested bids for the construction of 38 miles of 6-inch natural gas line to extend from the Eden field, Concho County, to connect with its West Texas system at a point near Miles.

The company will issue specifications for bids this week for 21 miles of 10-inch natural gas line to extend from the Cumberland field, Marshall County, Okla., to tie into its North Texas system near Denison. Pipe deliveries are scheduled for late July.

Lone Star has authorized the construction of 18 miles of 6-inch natural gas line to extend from Bryan to Caldwell, Texas, where a distribution system is under construction.

Gulf Will Install Loops On West Texas Oil Carrier

Gulf Refining Company, pipe line division, is installing a series of loops, involving a total of 82 miles of 10-inch pipe, on its West Texas carrier between Midland and Lufkin terminals. The new units will give the company 3 parallel 10-inch lines, and increase its capacity out of the Permian Basin to 120,000 barrels daily, including 10,000 barrels daily deliveries to the firm's refinery at Sweetwater, Texas.

Eastern Construction Company, Dallas, has the contract for laying the loops, and will complete the job in 30 days. Gulf's pipe line shipments out of Midland averaged 116,900 barrels daily the past week, with 10,200 barrels daily consigned to the Sweetwater plant.

Cities Service Will Lay Oklahoma Field Gas Line

The Cities Service Gas Company will lay a short gas line into the Witcher field of Oklahoma County, Okla., to purchase gas from two of the completed wells. Oklahoma Natural Gas Company has a line connection to the discovery well of the field.

Cities Service will tie into Skelly Oil Company's Adams 1, and the Peppers Refining Company's Parks 1, which is still shut in after initial gauge of 1,700,000 feet of gas daily through a ½-inch choke.

Canadian Line Boosted

Portland Pipe Line Company has announced plans for a new 20-inch pipe line to double the capacity of its present 236-mile system, which is handling an average of 60,000 barrels daily between Portland, Maine, and Montreal, Canada. The pipe line company, a joint holding of British American Oil Company, Imperial Oil, Ltd., McColl-Frontenac Oil Company and Shell Oil Company of Canada, purchased the line in 1946 from Standard Oil Company of New Jersey after the latter had built it during the war to transport oil despite freezing of the St. Lawrence River. Construction is waiting on materials.

California Line Slated To Be Ready in September

With pipe laying operations progressing at the rate of 1¼ to 1½ miles per day, the 30-inch, 214-mile high-pressure natural gas transmission line between Blythe and Santa Fe Springs, California, will be completed some time in September.

Two spreads have been at work on this portion of the line. Both spreads have been working westward. Spread No. 1, which started at Blythe on the Colorado River, is working this week in the vicinity of Indio, some 25 miles northwest of the northern tip of the Salton Sea. Spread No. 2, which started at Beaumont, is laying pipe in the vicinity of the rugged Chino Hills, 25 miles or more east of Santa Fe Springs. The The second spread, however, has skipped several intervals and plans to return to these later for final completion.

To date, about 125 miles of the 214-mile line has been welded, leaving slightly under 90 miles yet to lay. One of the major operations involved in laying the line was the crossing of the Colorado River, completed June 16.

Special operations involve the large diameter pipe, which is hydraulically cold stretched at the fabrication plant in Los Angeles to provide a much higher tensile strength for withstanding the high pressures to which the line will be subjected when in operation; the high quality of welds obtained at the plant using a continuous, submerged-arc welding process; the use of 30-inch diameter, factory-made bends in the field in place of conventional wrinkle-bending on all angles of over 10 degrees; the X-raying of approximately 10 percent of all field welds, with developing of film being done on the job in specially equipped refrigerated developing trucks; and the use of a newly-designed internal line-up clamp which travels through the pipe from weld to weld, powered by an electric motor with current generated by a small portable electric light plant.

Stanolind Will Increase Oil Outlet from Rangely

The Stanolind Pipe Line Company is increasing the capacity of its 10-inch pipe line from the Rangely field in northwestern Colorado, to Wamsutter, Wyo., from 28,000 barrels daily to 36,000 barrels, by installation of a relay pumping station at Sunbeam, Colo. The new station, about 35 miles west of Craig, is expected to be in operation within two weeks.

Stanolind recently installed a similar station on the line at Baggs, Wyo.

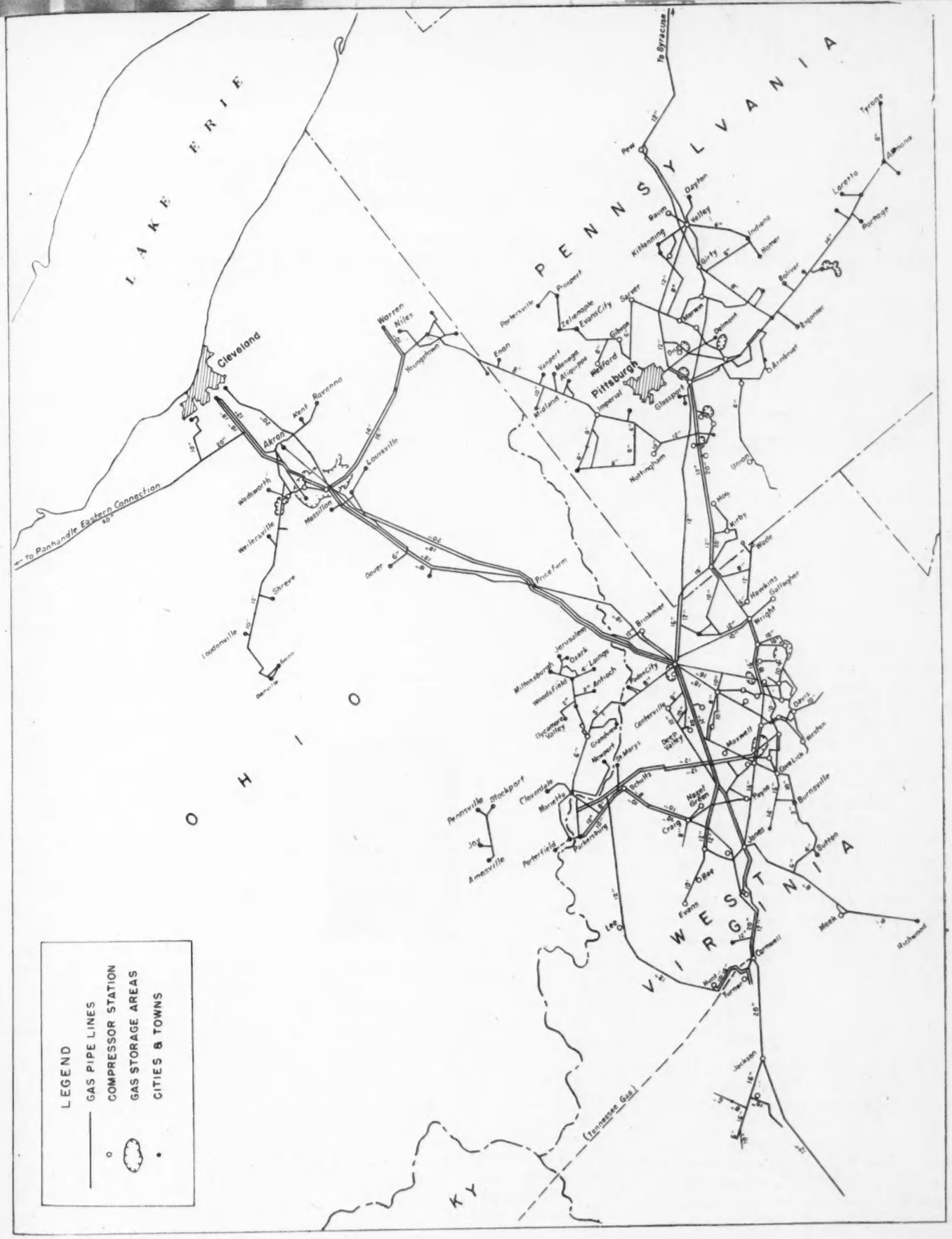
The pipe line extends west from Wamsutter to Salt Lake City, Utah, where it supplies the Utah Oil Refinery Company's refinery. The line also extends east from Wamsutter to connect with other pipe lines in Colorado and Wyoming.

The pipe line is owned by the Utah Oil Refining Company, in which Standard Oil Company (Indiana), parent company of Stanolind Pipe Line Company, owns a substantial interest.

Pipe Lines of the U. S.

Hope Natural Gas Company

20th of a Series



Drilling wells on the northeast flank of the Velma anticline, taken from the Skelly Romine lease SE 14-1s-5w, looking northwest. Left-hand line wells get the Romine sand at about 3800 feet, those on right at 5500 feet.

SOUTHERN OKLAHOMA *Oil*

By FRANK GOUIN
Independent Geologist, Duncan, Oklahoma

DISCOVERY of a number of important shallow oil pools in Cotton County, recent developments along the complex Velma anticline, and the encouraging prospects of finding important new oil reserves along other major geological features in the area serve to emphasize the growing importance of southern Oklahoma as an oil province with a future. Developments in the region are closely related to activities in the Anadarko Basin and it is expected that certain areas in southern Oklahoma which lie within this feature are due to experience considerable exploratory activity. It is significant that for the past few years an average of 250 rigs has been reported active in the area and current prospects indicate that this drilling activity not only will continue but also may be surpassed during the next 12 months.

First Wildcatting

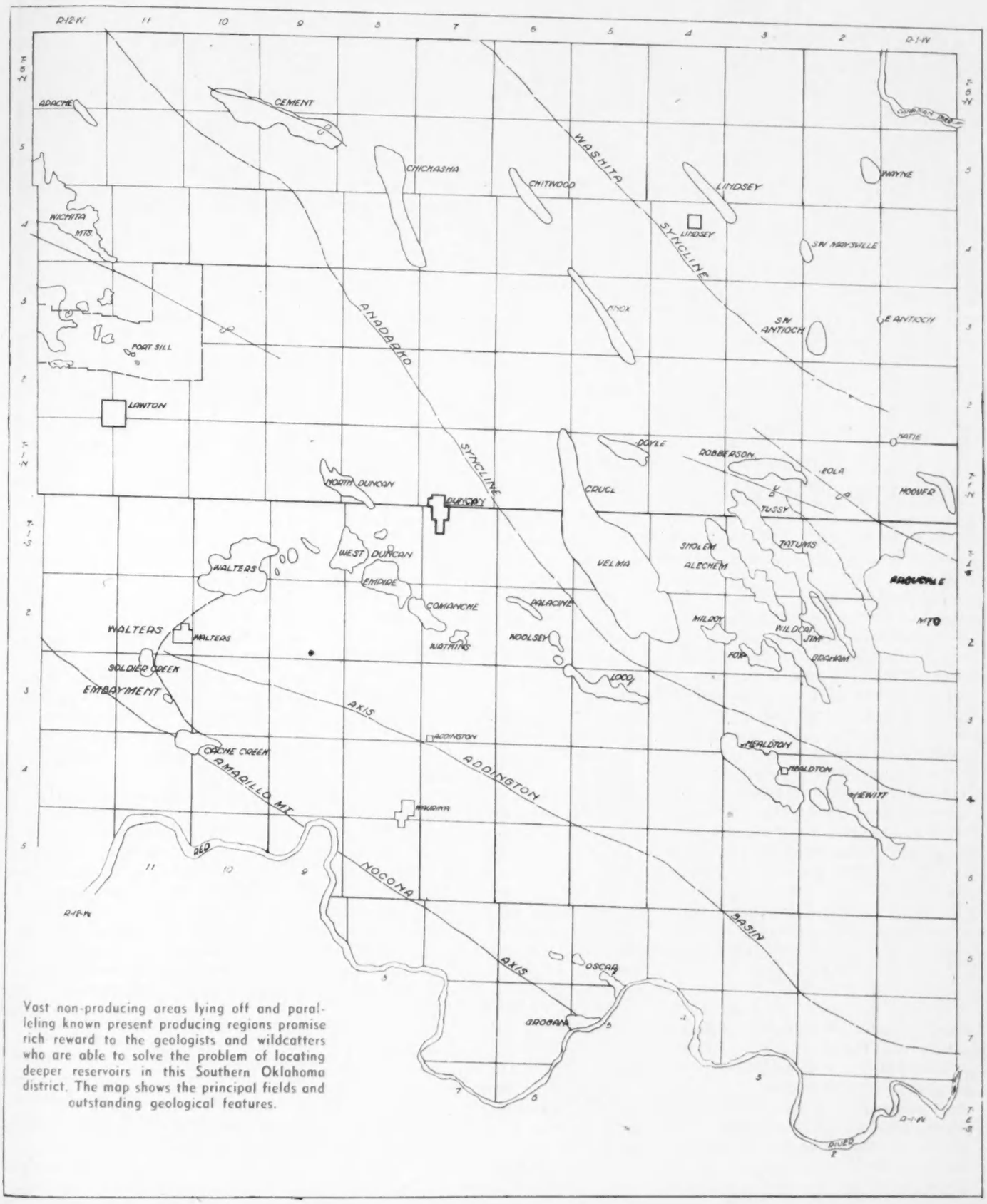
The record of the first drilling for oil and gas in southern Oklahoma is somewhat obscure, but it seems logical that certain of the numerous oil and gas seeps in the vicinity of the present fields attracted the first wildcatters. First mention of oil is that of the late H. B. Goodrich, geologist for the Santa Fe Railroad, whose work resulted in the discovery of the Wheeler field in 21-3s-2w in 1904. The next discovery seems to have been the Cruce gas field in 12-1n-6w, where drilling began as early as 1907, but where commercial gas production was not established until 1912. The next discovery is the one from which all southern Oklahoma development is dated. This was Healdton field in township 4s-3w, in August, 1913, by Roy Johnson, Ed Gault, Wirt Franklin and J. M. Critchlow. From that date to the present there has been a continuous succession of discoveries of new fields, new pays, and extensions of old fields. Discoveries have been slowed down at intervals when there was more oil than the market could assimilate, but there has never been a time since the discovery of the Healdton field that there were not a few wildcatters looking for another field.

To present a background for the stratigraphy and structure of the area, the geologic history is briefly summarized. Southern Oklahoma for the most part was located in a geosynclinal trough until early Pennsylvanian time. This resulted in a deposition of sediments of maximum thickness, as compared with other areas of sedimentation, from early Cambrian to Upper-Lower Pennsylvanian. For example, while the section here

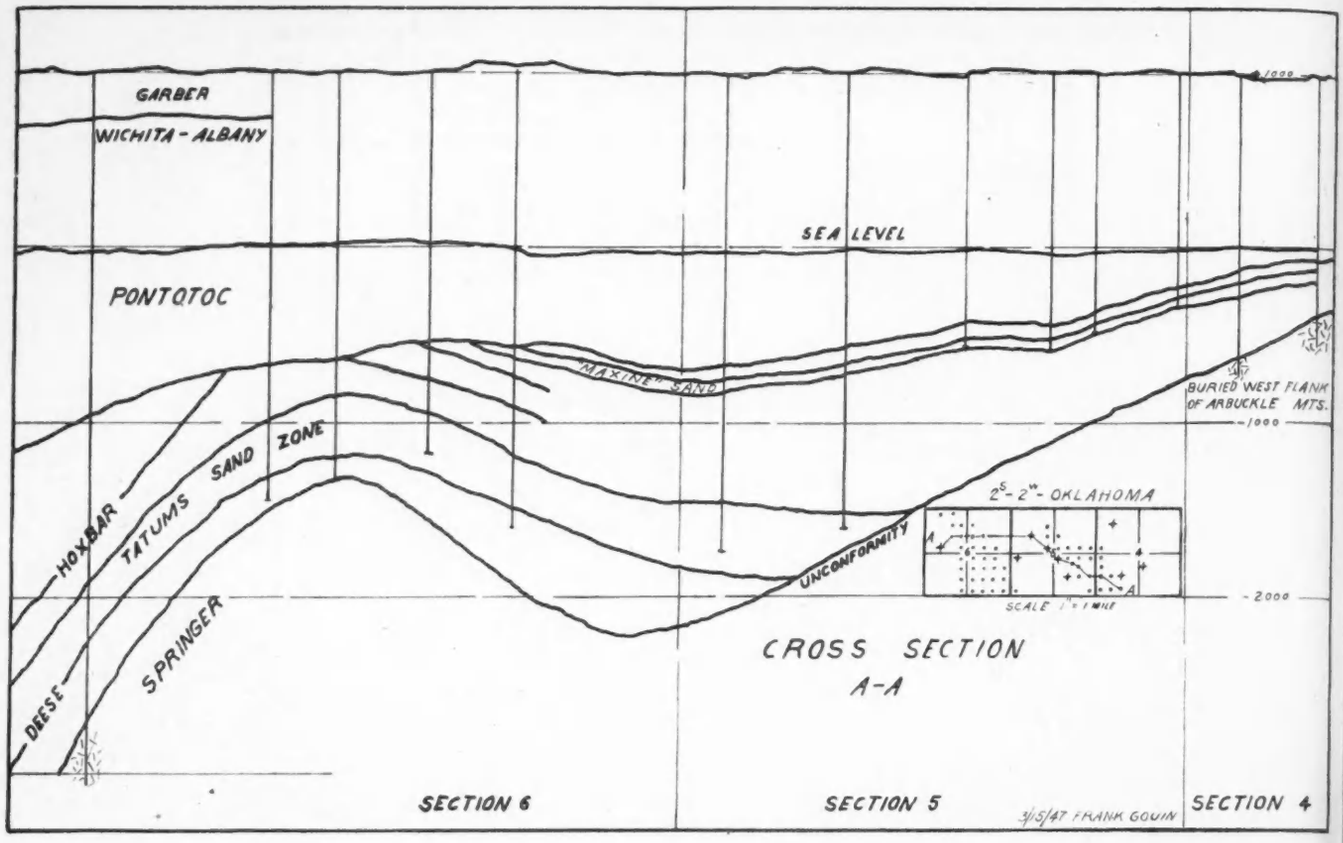
About the Author

FRANK GOUIN studied under the late Charles T. Kirk and received his degree in geology at the University of New Mexico in 1916. He worked as a field geologist in Oklahoma, Kansas and Texas for Empire Gas and Fuel Company until the summer of 1919; then became district geologist for Southern Oklahoma for The Atlantic Refining Company. In 1923 he was made division geologist for Oklahoma and Kansas. In the fall of 1925 he moved to Duncan to become an independent geologist and oil operator specializing in southern Oklahoma and the adjacent parts of north Texas. He is the author of the chapters on Beckham, Comanche and Stephens counties in Bulletin No. 40, "Oil and Gas in Oklahoma," published by the Oklahoma Geological Society. He has been a director of the Southern Oklahoma Oil and Gas Association for a number of years.

Reviewing past performance of the area, and forecasting future development of existing and indicated structures, this article sees southern Oklahoma as an eventual source of most of the state's oil production when drilling is carried to depths beyond those now regarded as maximum under existing economic conditions.



Vast non-producing areas lying off and paralleling known present producing regions promise rich reward to the geologists and wildcatters who are able to solve the problem of locating deeper reservoirs in this Southern Oklahoma district. The map shows the principal fields and outstanding geological features.



is almost identical as to lithology with that of central Oklahoma up to early Mississippian time, each formation has a much greater thickness. The Simpson group (Ordovician), as one illustration, is from 2000 to 2400 feet in thickness, whereas in the Seminole area it averages 800 feet.

The main Wichita Uplift marked the close of Lower Pennsylvanian time. It has had a major influence on the southwest half of this area. While the central core of this uplift was in the heart of the present exposed basement rocks in the Wichita Mountains, the result of the uplift produced a series of northwest-southeast axes through this area, chief of which are the Wichita-Criner Hill axis and the Amarillo Mountain-Nocona-Muenster axis. Between these two axes lies the Addington Basin terminating in the Walters embayment at its northwest end. The Wichita orogeny produced the Anadarko Basin to the north and the Fort Worth Basin to the south. Many peaks along these axes were not again submerged until late Pennsylvanian time.

The other great uplift which is responsible for the structural history of the area was the main Arbuckle Uplift which occurred at the close of Pennsylvanian time. The result of this uplift was a series of close folds covering the northeast half of the district and a further deformation of the sediments over the Wichita Uplift folds. The end of this period of intense folding marked the beginning of Permian time and the beginning of a period of severe sub-areal erosion and denudation which resulted in the removal of a tremendous thickness of sediments from the highs with a consequent redeposition in the lows. This period of erosion is known as the Pontotoc Unconformity. It is a period of time which appears to be most difficult for the newcomer to the area to understand.

The Pontotoc Unconformity closed when the entire area was worn down to a peneplain with only the Arbuckles and Wichitas and a few highs along the axes rearing their heads above the shallow Permian seas. This marks the beginning of Wichita-Albany time of the early Permian. From then until the close of Permian time, as represented by the Permian groups of rocks in the area, there was a red bed deposition remarkably consistent as to the thickness of each individual group.

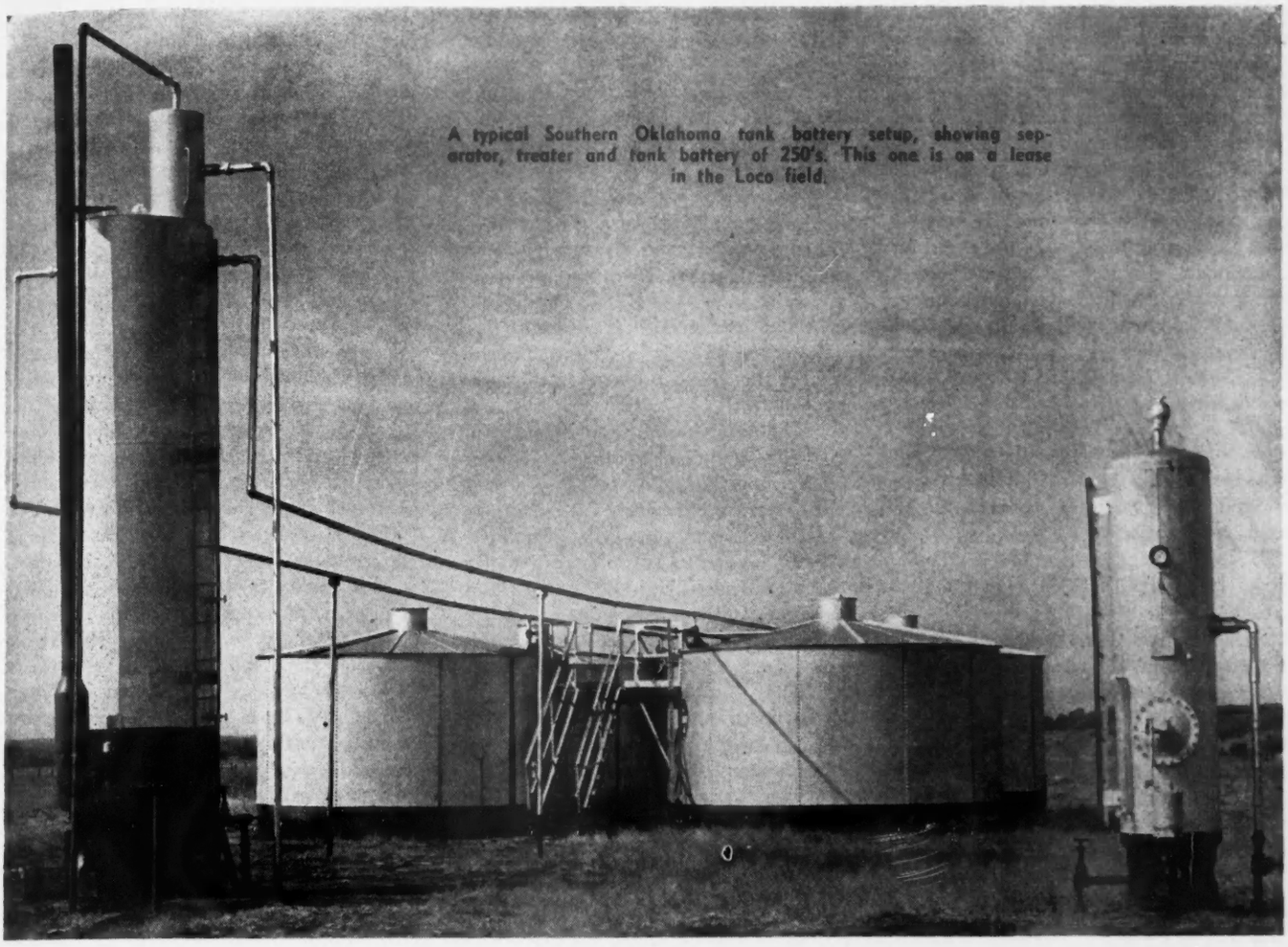
The Permian closed with a period of gentle folding which elevated the region slightly above water level during Triassic and Jurassic time. The southeastern portion of the area was submerged at the beginning of Cretaceous time with the consequent deposition of formations of the Trinity group. Later geologic history has little bearing on the possibilities of the area. Since that time there have been deposited some later (Pleistocene to recent) unconsolidated deposits in the present topographic lows.

The stratigraphy is here briefly summarized as to the formations in which the producing horizons occur with the additional description of some other formations necessary to an understanding of the area.

Cambrian, Timbered Hills group: The Honey Creek limestone, top formation of this group, is a coarsely crystalline, glauconitic limestone from 100 to 200 feet in thickness which grades into the Reagan sandstone toward its base. The eroded surface of this limestone is productive in places where Paleozoic formations which normally rest above it have been removed by erosion.

Cambro-Ordovician, Arbuckle group: The Arbuckle here is similar lithologically and in thickness to what it is elsewhere in the Mid-Continent. The top member of this group is a petroleum reservoir.

Ordovician, Simpson group: From the bottom up the formations in this group are the Joins, Oil Creek, McLish, Tulip Creek and Bromide, each having an average thickness of 400 feet. Sands which are present in formations of this group farther east begin to lens out from the bottom up at the east limits of the area so that when the easternmost field is reached from the east the Bromide is the only formation carrying sands of any consequence. In addition the Bromide sands lens out to the southwest. This leaves only the northeastern half of the area carrying sands in the Simpson group, and in the top formation only of that group. The other formations in the group in the northeast portion of the area, and all of the formations in the group elsewhere are made up of a section of green shales, limestones and dolomites. Oolitic limestones in the McLish forma-



A typical Southern Oklahoma tank battery setup, showing separator, treater and tank battery of 250's. This one is on a lease in the Loco field.

tion are porous enough in places to act as reservoirs.

The Viola limestone has a thickness of from 700 to 900 feet. The upper portion or Fernvale member is coarsely crystalline and is an oil reservoir in places. The lower member, the Trenton, is a dense limestone containing many beds of chert.

The Sylvan shale with a thickness of 300 feet is the typical gray-green shale of the region.

Silurian-Devonian, Hunton group: The Hunton group has a thickness of from 400 to 600 feet and is composed mainly of limestone beds. The lowest member, the Chimneyhill, which averages 50 feet in thickness, produces on structure. The upper member, the Bois d'Arc, is productive on structure when present. The overlying Woodford chert is a fissle black to brown cherty shale from 200 to 500 feet in thickness.

Mississippian, Sycamore limestone: This is a very hard, tough gray to buff dolomitic limestone averaging 200 feet in thickness. Its importance in the section comes from the fact that it is an excellent reflecting horizon to determine the structure of the underlying rocks.

Caney shale: This upper Mississippian formation has a thickness in excess of 1500 feet consisting entirely of black bituminous shales.

Pennsylvanian, Springer series: This consists of about 3500 feet of black bituminous shales much like the underlying Caney with some massive sandstones in the top portion. There is much evidence to support the fact that the Woodford, Caney and Springer formations are important sources of the oil in those parts of this area where they are present.

Dornick Hills formation: This is a formation of dark shales and sandstones, and some limestones which outcrop east of the Criner Hills and which is present in the underground section in the east-central portion of the area. This formation has been truncated over most of the highs but sands in the formation are productive over deeper seated folds and on the flanks of some highs near their eroded edges. The part of the section carrying the most sands is in the upper portion, while the Otterville limestone (Wapanucka equivalent) is near the base.

Deese formation: This is a formation of gray shales and massive sand zones with an occasional thin limestone with an average thickness of 1000 feet. East and south of the Healdton field there is an extra section of Deese below the above described portion that has come to be known as the "Maroon shale" section. This is a section of rich, brown shales with some interbedded gray shales in which sandstones of from five to 40 feet in thickness are present.

Hoxbar formation: Overlying the Deese formation is the Hoxbar formation, the lower part consisting of light gray, silty shales, massive limestones and sandstones. The upper portion consists of light grayish, greenish and brown shales and sandstones, with an occasional thin limestone. The underground thickness of this formation is variable due to the truncation which took place during Pontotoc time. In the deeper seated folds in the region of the Anadarko syncline its thickness exceeds 4000 feet. On the Arbuckle mountain folds usually only the lower Hoxbar is present, while from Loco to Walters and west there is always some of the upper Hoxbar present since in it are the sands which are the main productive reservoirs in that entire area. The lower Hoxbar is similar to its Texas correlative, the Canyon, in the massive limestones in the section. And like the Palo Pinto the Hoxbar Anadarko lime member, or more locally the "County Line" lime or "Loco" lime is often found in reefs.

Permian, Pontotoc formation: The period of rapid denudation following the Arbuckle uplift which took place at the close of Hoxbar time that caused such extreme differences in topographic relief would naturally produce a section of coarse sediments. The highs were beveled off and the lows filled in. Much of the material in the lower part of this formation in the

east central part of the area is lower paleozoic material from the Arbuckles themselves since those mountains at that time stood 10,000 feet or more above the surrounding country. Likewise in the western part of the area the material was arkose from the Wichitas, which at that time had been eroded down to their igneous core. Farther out into the regional basins the sediments were finer. Around the mountains and in close proximity to the major highs the material is composed of conglomerates, cherts, arkoses, coarse cherty sandstones and brown and greenish-gray shales. Farther out the section is composed predominantly of brown shales, some greenish-gray shales, arkosic or cherty sandstones and sandstones. The thickness varies from zero to 4000 feet.

Sands in the Pontotoc produce in various fields in the area.

Wichita-Albany formation: A 700-foot series of shallow, brackish water deposits consisting of alternating gray sandstones and purplish-reddish clay-shales. In each clay-shale interval there is a thin bed of barite-calcite concretions. This formation is exposed on the surface over much of the southwest third of the area. In the extreme western part of the area the sands are beginning to lens out from the bottom up. Sands in this formation are productive in some fields.

Garber formation: Overlying the Wichita-Albany is a 320-foot section of rocks known as the Garber sandstone. It is composed principally of lenticular conglomeratic sandstones, red sandstones and some red shales. This formation is exposed across the central part of the area and in patches all over the southern half. Sands in the Garber produce where they are underground in the northwest part of the area.

Permian formations above the Garber are present in the northwestern part of the area but do not produce here so will not be described.

Regional Structural Features

From northeast to southwest the main regional structural features are as follows:

1. What the writer has chosen to designate as the Washita syncline. The position of the axis as shown on the map is hypothetical.

2. The Arbuckle Mountain-Cement belt of folds. Principal folding at the time of the main Arbuckle Uplift.

3. What the writer has chosen to designate as the Anadarko Syncline. A syncline coming out of the Anadarko Basin and dividing the Arbuckle and Wichita Uplifts.

4. The Wichita Mountain - Healdton belt of echelon folds.

5. The Addington basin. Terminating at the northwest in an embayment which has its head in the vicinity of Walters and plunges to the southeast.

6. The Amarillo Mountain - Nocona axis with its attendant folds. (4, 5, and 6 are the results of the main Wichita Mountain uplift.)

While the Wichita Mountain Uplift in early Pennsylvanian time established the lines of weakness credited to it above and resulted in the formation of peaks that were beveled down and covered by later Pennsylvanian formations to form the "buried hills" of Sidney Powers, it was the main Arbuckle folding at the close of Pennsylvanian time which is responsible for the producing fields of the entire area.

The folds of the Arbuckle-Mountain-Cement belt and from Healdton east are typical Rocky Mountain structures. If the Permian could be stripped off they could all be seen. Most were concealed by the close of Pontotoc time but because of the gentle folding after Permian time when the old lines of weaknesses prevailed, the Permian rocks were arched over the old highs and most of the highs can be mapped today on the surface rocks. Determining the position of Pennsylvanian faults, both normal and thrust, and overturned folds, is another matter.

Most of the fields in southern Oklahoma have been discovered as a result of geological work in some form or another. The early-day geologists naturally had only surface indications upon which to base their conclusions. They were severely handicapped by the scarcity of roads and by having to travel by horse. Had they been able to get over the country with the speed and ease now possible they would have been able to discover many of the folds since discovered, merely by mapping the outcrops of the surface formations. But with all of the handicaps they did a marvelous job. Seeps have played a prominent part in the area. Since these early-day geologists had no information from which to pick out any buried regional highs, the best they could do was to work out surface folds and evaluate the possibilties by the proximity of seeps. Their tools were those common to field geology: the Brunton compass, hand level, barometer, alidade and plane table. By using this combination of surface folds and seeps Wheeler, Cruce, Loco, Healdton, Graham, Milroy, Fox, Velma and Wildcat Jim were discovered.

Then, as considerable scattered drilling together with field drilling began to disclose the nature of the marine rocks buried beneath the red beds of southern Oklahoma along with some ideas of the regional highs and lows, the geologist became more selective in the areas he mapped on the surface. Then he found Cement, Walters, Comanche, Hewitt, Empire, Robberson, West Duncan, North Duncan, Palacine, Doyle, Sholem Alechem, Oscar, Knox and Grogan in the order named. In the meantime the use of the rotary in drilling up these newly discovered fields made it necessary to work out methods for the catching and saving of cuttings continuously and in a systematic order. Such methods were worked out in 1920 and 1921 by the geologists working in southern Oklahoma and have become standard procedure since. In the study of the lithology as disclosed by the well

SOUTHERN OKLAHOMA

Correlation of Upper Paleozoic Section of Southern Oklahoma

System	Mid-Continent Standard Series	Southern Oklahoma Series	North Texas Series
PERMIAN	LEONARD	LEONARD Wichita-Albany fm.	LEONARD Wichita-Albany fm.
	WOLFCAMP	PONTOTOC	Admiral fm WOLFCAMP Pueblo fm.
PENNSYLVANIAN	VIRGIL	UPPER HOXBAR	Thrifty fm. CISCO Graham fm.
	MISSOURI	Zuckerman ls. LOWER HOXBAR Anadarko ls.—Confederate ls.	Caddo Cr. fm. CANYON Palo Pinto ls.—White fm.
	DES MOINES	DEESE Arnold (Tussy ?) ls.	Lone Camp fm. STRAWN Millsap Lake fm.
	LAMPASAS	Pumpkin Creek ls. UPPER DORNICK HILLS Bostwick cgl.	Caddo cg. fm. LAMPASAS
	Wapanucka MORROW	Otterville ls. LOWER DORNICK HILLS Joliff ls.	
	SPRINGER	SPRINGER	
MISSISSIPPIAN	CHESTER	CANEY	BARNETT
	MERAMEC		
	OSAGE		
	KINDERHOOK	Sycamore ls.	

From AAPG with additions by writer.

cutting and cores the geologist began to learn much of value concerning the subsurface formations. This gave him more ideas as to the stratigraphy as well. He then began to evaluate various areas as to the section which reasonably could be expected underground, and a general idea of the depths necessary to drill to penetrate certain reservoir formations. He soon had enough productive history to evaluate a possible upper Hoxbar field, for example, as against one expected to produce from the thick sand zones of the Deese.

Electrical Log Aid

He next found extensions to the Tatums and Wildcat Jim fields, the Tussy field, West Hewitt, west extenson to Loco, and South Tussy, as well as several minor fields. The introduction of the electrical log was a great aid. With such an accurate check on formations, when used with well cuttings and time log, the geologist could work with a greater degree of accuracy than ever before. In field drilling much coring had been necessary heretofore, but very little was now necessary, for the geologists had a check on the permeability and resistivity of reservoir formations. About the same time as electrical well surveying was introduced into southern Oklahoma in 1936, another geophysical tool was being used by the geologist. This was the seismograph. Most of the fields found in southern Oklahoma since 1940, as well as some extensions to older fields, have been discovered by various geologists as a result of the use of most of the tools of the profession, both physical and geophysical. Apache, Hoover, Chitwood, one extension to the Velma field, and the recently discovered fields in the Walters embayment are examples. Also, during this 1936-1946 period, the geologist has been busy directing deeper and flank drilling in fields where the possibilities for so doing were apparent, and during periods when the oil market was not depressed.

Now, with years of productive history on about all the types of reservoirs present underground in southern Oklahoma (no southern Oklahoma field has yet reached the abandonment stage), and with electrical logs and well cuttings available in any new field discovered, the geologist can compute the oil which will be produced from that field much more accurately than formerly. With the assistance of enginers for various well-servicing agencies, such as electrical logging, drill-stem testing, cementing, gun-perforating, acidizing, salt-water testing, etc., he can direct the completing, deepening or reconditioning of wells in the most efficient manner known at this time.

The biggest problem facing the geologist in southern Oklahoma is that of recovering a greater percentage of the oil than is now obtained from present producing sands. Price paid for crude will be the biggest factor in working out improvements along this line. The problem of getting the maximum recovery is greatest in the thick sand zones of the Deese where the average permeability is low in most of the fields, and where some wells have as much as 1000 feet of perforated liner. In some new fields one sand zone is found to have sands with very high permeabilities. When this condition is discovered, and the general character of the sand and structure is known early enough in the development, some form of pressure maintenance is the solution which results in maximum recoveries. An outstanding example of this is in the South Tussy field. But there is a challenge to all in the oil business for an economic solution to the problem of recovering a part of the millions of barrels of oil that will remain in the thick sand zones of southern Oklahoma after present methods of producing have become uneconomic.

Drilling and Production Methods

The history of drilling and production methods in southern Oklahoma is a history of the evolution of the oil business. Until the time when the rotaries moved into the Walters field in 1917 all drilling had been done with cable tools and standard derrick. This was quite an undertaking when it is considered that many hundreds of feet of the top part of a hole consisted of red beds. Then, after 1917, there was a long period when it was not permissible to drill into a productive sand with a rotary. It then became the practice to drill to or just above the sand with an 11-inch hole, after setting 12½-inch surface casing, then cement a string of nine-inch casing at this point—after cementing became more or less the usual practice in 1919. A standard front then would be built and the well drilled in with cable tools and a seven-inch liner run to bottom. In the late 1920's the rule against drilling in with a rotary was suspended. It then became the practice to cement the oil string on top of the sand zone, then drill plug and the entire sand zone, set the perforated liner, wash the hole and either swab or bail the well in, all with the rotary.

The advent of electrical well logging and gun perforating in southern Oklahoma revolutionized drilling and completion practices. Since that time practice has been to cement a short string of 10¾-inch surface casing, drill a nine-inch hole to bottom, run the electrical log, and cement a string of seven-inch casing on bottom. The rotary is then moved off and a servicing machine moved on to bail the hole. The casing is then gun-perforated opposite the pay sands in the zone.

Production methods begin with the intelligent perforating of the casing. In the beginning the tendency was to shoot a lot of holes opposite the sands and trust to luck that everything would be all right. The structural position of the oil-water contact and of the oil-free gas contact—if there is a gas cap—is usually known in the early stages of the development of any field. Perforating should be done with these data in mind. There are some wells in this area now, in which the oil-gas ratio is too high, which should be squeezed and reperforated.

When there is a possibility that a well will flow when perforated it is hooked up with a master gate and a lubricator when the perforating gun goes in the hole. When perforating is completed a tubing head is installed and tubing run complete with common working barrel. In the case of a flowing well a choke is installed, then 1½-inch flow line to the separator and on to the tanks. If it is not a flowing well, rods are run and a pumping unit set over the well. In the case of the completion of a small pumper on an older lease where there is already a central power, the new well is equipped with a regular pumping jack.

Most of the oil produced in southern Oklahoma is a mixed base crude so there are times when there will be accumulations of paraffin in the upper portions of the tubing, in the flow lines and in the tanks. The tubing and flow line deposits occur for the most part in flowing wells and can usually be stopped by proper choking of the individual well. Tank bottoms need cleaning from time to time. Nothing in any of the oil is corrosive to iron or steel.

Oil and Gas Fields Grouped As to Age of Producing Horizons

PERMIAN PRODUCTION

Garber formation: The original discovery Farwell (1300-foot) gas sand of the Chickasha Gas field and the 1600-1800-foot sand of the Cement field are in this formation.

Wichita-Albany formation: The original shallow sand production of the Doyle, Velma-Cruce, Milroy and Wheeler fields is from sands in this formation.

Pontotoc formation: Cement field Fortuna sand and correlative sands in the Chickasha gas field, the producing sands of the Carter-Knox field, all sands of the Robberson field above the 1700-foot lime pay, and the 800-foot sand of the Nocona and Grogan anticlines.

PENNSYLVANIAN PRODUCTION

Upper Hoxbar formation: All of the fields in the southwest quadrant of the area from the base line south to the Red River, and from the Watkins field west through the Walters embayment are producing from sands in this formation. In addition a few sands in the Cement, Chickasha gas field and possibly the Hoover field are producing in this formation.

Lower Hoxbar formation: The deeper pay sands in the Cement, Chickasha gas field, West Duncan, Empire, Palacine, Woolsey, South Woolsey, and Loco. All pays at Oscar and Spring above the Arbuckle. Intermediate pays at Velma and Doyle. Upper sands at Wildcat

Jim and Fox (gas). Pays at Cox-Maxine, Katie and Hoover.

Deese formation: Main producing zones on the West Velma Sholem-Alechem, Fox, Graham, Tussy, South Tussy, Tatums, Wildcat Jim, Healdton, West Hewitt, Hewitt, Southeast Hewitt, Southwest Lone Grove, and Brock anticlines. Also some of the pay horizons in the fields in the northeast portion of the area around Antioch and Maysville.

Dornick Hills formation: Flank sands on the Velma-Cruce anticline.

Springer formation: The upper Springer zone of sands producing at Chitwood and Northeast Hobart. Some scattered areas not yet proved as commercial.

SILURO-DEVONIAN PRODUCTION

Hunton lime group: Produces on the Milroy, Fox and Graham anticlines. Also in some of the fields around Maysville and Antioch.

ORDOVICIAN PRODUCTION

Bromide formation: The pay in the Apache field. The deep pay on the Velma anticline (7000 feet). The pay in the newly discovered Eola field (10,000 feet).

Arbuckle limestone: Bottom pay (1700-2100 feet) in the Oscar fields.

CAMBRIAN PRODUCTION

Honey Creek limestone: In the weathered surface of the formation on the east and of the Robberson field (1700-1800 feet).

PRODUCTION

As of January 1, 1947, there were about 8000 wells producing oil in the area with a total daily average production of almost 80,000 barrels. The estimated cumulative production through the years in the area totals some 670 million barrels.

About half of these wells, or over 4000, have produced an estimated cumulative total of over 440 million barrels of oil from the anticlines producing from sand zones in the Deese formation. These are Doyle Fox, Graham, Healdton, the Hewitt fields, Sholem Alechem, Tatums, Tussy, Wildcat Jim and West Velma. The writer estimates a total reserve of 400 million barrels from the present producing zones from these anticlines.

Fields where the bulk of the production has been from the lower Hoxbar are Cox-Maxine, Loco and Oscar. In those fields an estimated 475 wells have been drilled which have produced a total of about 18 million barrels of oil. There remains an estimated reserve of 25 million barrels of oil.

Most of the oil which has been produced in the fields in the southwest quarter of the area from the Watkins field west through the Walters embayment has been from sands in the upper Hoxbar. In the past few years deeper pays in the lower Hoxbar have been discovered in West Duncan, Empire and surrounding areas. All the oil is a high gravity paraffin base crude coming from sands from depths of from 1200 to 2600 feet from folds of low relief with the entire rock section being very easily drilled. The conventional spacing over the area is nine wells to the 40 acres. It is estimated there have been about 1100 wells drilled of which over 300 were drilled in 1946. Over 73 million barrels of oil have been produced, with the average daily production being 14,000 barrels on January 1st. There is an estimated reserve of 80 million barrels of oil in these fields from the present producing sands. The writer has no record of the enormous quantities of gas produced in the past in these fields, principally in the West Duncan and Walters fields.

The two fields in the area which have produced practically all their oil from sands in the Pontotoc group are Knox and Robberson. The former has produced over 17 million barrels of high-gravity oil from about 200 wells in sands from 1700 to 2900 feet in depth, and has an estimated reserve of about 15 million barrels from these sands. The latter has produced an estimated 16½ million barrels of low gravity asphalt base oil from about 175 wells from sands at depths of from 1400 to 1800 feet, and has an estimated reserve of 10 million barrels.

The only other field of any consequence producing from one formation alone is the Apache field, which has made a total of over 10,400,000 barrels of high-gravity oil from the Bromide sand from 35 wells producing from an average depth of 3200 feet, and having an estimated reserve of 20 million barrels.

Other fields in the area produce from several formations and are treated separately.

Cement field: Has produced alomst 43 million barrels of high-gravity oil (with the exception of one sand) from about 500 wells from sands in the Pontotoc and upper and lower Hoxbar, at depths of from 2400 to 6400 feet, with an estimated reserve from present producing sands of about 50 million barrels. In addition an immense quantity of gas has been produced, with large quantities still being produced. Much of the gas has been produced from regular gas sands, but it has been estimated that more than 70 billion cubic feet of gas has been produced from the gas cap of the Medrano (lower Hoxbar) oil sand. Present oil production from this sand is being held to 5300 barrels of oil and 23,600,000 cubic feet of gas daily. There is a movement on foot to shut in the wells producing gas from the gas cap and to inject the vent gas being produced with the oil back into the sand. This will result in a much greater ultimate recovery of oil from the reservoir by holding the gas cap static and permitting a natural water flood from the flanks to flush the oil from this highly permeable sand.

Chickasha gas field: This field, discovered in 1922, has been and is still producing large quantities of gas only from essentially the same zones producing in the Cement field. It is expected that this will hold true for deeper sands than have yet been penetrated down to and including the Bromide sand. The writer has no figures on the amount of gas which has been produced from this large anticline.

Velma-Cruce Anticline: Most of the production on this huge anticline was from shallow Permian sands at depths of from 700 to 900 feet in the Velma sector from its discovery in 1917 until the discovery of the Bromide sand production at just below 7000 feet in early 1942. By that time something over 600 shallow wells had been completed with an estimated cumulative production in excess of 6 million barrels of oil. In 1943 and 1944 wells were completed in the northeast flanks to Hoxbar and Deese sands which were truncated on top. Then early in 1946, farther down the northeast flanks, thick sands in the Dornick Hills formation were found productive. As of January 1, 1947, there has been produced an estimated 645,000 barrels of oil from six Bromide wells and over 10 million barrels of oil in all sands above the Bromide from 820 wells. There are patches of producing wells all along the anticline, with development in the field very much in its infancy. The writer realizes that any estimate of reserves in this large area is a rank guess at the best, but believes a reserve of 100 million barrels from sands above the Hunton series is on the conservative side. For any estimate of reserves from the Hunton on down in the geologic section the writer can only state that they should be consequential.

Milroy: About 150 shallow (400-500 feet) Permian wells on the Milroy anticline have made a cumulative production of over 3,800,000 barrels of oil. The remaining recoverable reserve might total 5 million barrels. The one deep well in the field has made over 800,000 barrels, most of it being from the Hunton after plugging back from basal McLish, with a daily production now of slightly less than 100 barrels.

Chitwood: This field producing at depths below 10,000 feet from thick sands in the upper Springer bids well to eventually develop into one of the better fields of the area, but with just three completed wells now there has not been enough development to arrive at any estimate of reserves.

Hoover: On January 1 about 50 wells were producing a daily average of 1400 barrels in this field discovered some two years ago, producing in Hoxbar sands from 1300 to 2200 feet in depth. The reserve should exceed 10 million barrels of high gravity oil.

Smaller fields: An estimated 150 wells have been completed in several smaller fields not listed above. They have produced an estimated 5 million barrels of oil.

Future Prospects of Southern Oklahoma

Southern Oklahoma is the bright spot in the oil and gas reserve picture for the entire state. With over 300 active operations in the district, and with all signs pointing to an increase in these operations, it would appear that this is the one district in the state which will take up the production decline slack of many of the older areas where the rock section has been fairly well tested.

The longevity of the producing fields of the district is attested to when it is realized that no field has yet been abandoned. Recent extensions in fields that are from 20 to 30 years of age, and deeper pays recently discovered in fields of comparable age would seem to substantiate an old southern Oklahoma saying that no field in the district has ever been definitely defined, either laterally or vertically.

The known proved reserves of the fields of the district as estimated by the writer under "Production" total 715 million barrels. These are only known post-Mississippian reserves with no accounting made for the large reserves known to be present in the lower Paleozoic section. Yet even the above estimate has to be dated as of January 1, 1947, for the overall picture changes almost daily. The discovery of Dornick Hills production in March, 1947, on the southwest flanks of the Knox field makes it appear like a duplicate of the northeast flanks of the Velma anticline where there is almost 6000 feet of productive closure, and easily adds another 50 million barrels of oil to the southern Oklahoma reserve picture.

When the time comes that the oil is needed to the extent that drilling to depths of from 7000 to 15,000 feet becomes economic, then high among the list of untapped reserves is the lower Paleozoic section under the Arbuckle Mountain-Cement belt of folds. Aside from about four scattered areas no well has ever gone below the base of the Pennsylvanian in any of these fields. Yet there is no reason to expect anything but important production under practically all of these anticlines from pays in the lower Paleozoic.

Now that the oil producer is enjoying the first decent sustained price for crude he soon will be able to not only take the drilling risks necessary to find the new production to replace the natural decline of his producing properties, but also to endeavor to increase his daily production.

For the next year in southern Oklahoma it appears that there will be widespread activity from one side of the district to the other. In the "Walters Embayment" there is much proven acreage to be drilled up as well as the discovery and development of new producing areas. East through the Empire area there is much development, with extensions and deeper sands being found almost weekly. The next jump to the east is to the Velma-Cruce anticline where development is now getting really intense and where the scene of greatest activity in the district probably will be located for the next year. However, due to the complexities of the structural picture the writer fully expects that there will be wells drilling on this huge anticline 30 years from now. Renewed drilling activity in the Knox field should be in full swing by late summer. There is much activity now in Wildcat Jim, Tussy, Cement, the Hewitt fields, Doyle, Healdton and in intermediate fields.

The slow decline of southern Oklahoma production has been remarkable. Most properties producing now will be producing 30 years from now. It is therefore quite safe to predict that the daily production of the district will hold to a minimum of 75,000 barrels a day for at least 30 years, and that the daily production of the district will be of material consequence many years after the turn of the century.

Hazards of
EXPERIMENTAL WATER FLOODING

By F. R. COZZENS
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MORE than 85 percent of the measures and methods now being used in the production of oil and gas were discovered and put into action by independent producers. Such inventive talent has largely established the production end of the industry, and much more of it is needed in the future. Most field-invented measures were put to work with but meager knowledge of application, and many of those proving most successful have, to a certain extent, back-fired. As natural production wanes in stripper fields and pumping difficulties increase, these repercussions become more impressive. Not only are they adding to the cost and effort of producing oil, but their adverse effects must also be reckoned with in mapping out a schedule for future recovery.

An outstanding example is the early attempts at air pressuring, where hundreds of acres of virgin territory were ruined and thousands of barrels of oil driven into thief formations before sufficient knowledge was obtained to apply the measure effectively. Pioneer well-shooting methods have also resulted in great waste of oil in tight and restricted sand zones. A similar example which is gaining considerable headway in certain districts, and one far more potent and treacherous, is the experimental use of fresh water as an oil-recovery agent.

How Oil Is Trapped

Since the establishment of major water-flooding projects, which under expert guidance have proven highly successful, many independent producers have attempted in various ways to imitate the practice on their own properties. In most cases, fresh water has been allowed to encroach upon badly depleted or abandoned wells, selected at random. A few operators have used pumps in attempts to force the water into wells at a more rapid rate. As a rule, fresh water, unless under pressure does not penetrate an oil-bearing formation for any great distance, but in very loose or channeled sands, water can, and often does, penetrate for distances sufficient to encircle quanties of oil, and may underpass and overpass tight and restricted, but otherwise productive sand zones. Jamin action is created in various areas, and since the operator is not provided with means by which to filter or chemically treat inducted water, there is continuous conveyance into the wells of silt, mineral salts, oxides, and bacterial growth. These agents, once they reach and adhere to the sand-face, can not be removed by the use of solvents or clean-out tools. The results of the experimental procedure are generally spotty and one-sided floods, while within their boundaries are trapped undetermined quantities of oil, much of which is a total loss because no known recovery method will force oil through a water-logged sand.

It must be admitted that experimental flooding has actually increased the production of oil on certain properties. In some cases pumping time has been reduced considerably. The pressuring process, however, becomes more intricate and complicated as time progresses, burdening the operator with a much greater problem than he had expected. This, and various other difficulties generally force an abandonment of the venture, but usually not before the input wells are ruined, and some of the producers water-coned or partly drowned. The customary follow-up procedure is to pump remaining producers as long as possible by natural methods, leaving water burden in the sand. A few operators, however, have realized their predicament and are making efforts to correct damage which already has occurred.

Indiscriminate adoption of methods successful on adjoining leases is sometimes, like self-doctoring, the worst thing that could be done for the patient. Water flooding, especially in eastern areas, is a highly specialized practice, and may be applied to productive wells only after thorough analysis of the many factors involved. Here the author lists some of the pitfalls commonly present in his area.

Counting the Damage

The extent of water-damage to a property depends upon the period of time involved, the nature and structure of the sand, and the degree of water penetration. In some cases, it is advisable from a financial standpoint to abandon the property entirely. On more promising properties, favorable results are being obtained by isolating or confining water-logged spots so as to draw as much oil as possible from around them. In all cases, effort should be made to relieve the sand of excessive water so as to retard further encroachment. This is especially important if water has been inducted into boundary wells which in some states can cause legal complications with neighboring producers. The initial corrective procedure is to pump the inputs as dry as possible and plug them.

Acid and Wash-Downs

Clean-out tools are used over partly drowned wells, and after cavings and residue have been removed a revival agent, usually hydrochloric acid, is poured in until the shot hole is filled. Acid is allowed to remain in the well three to five days, then pumped out. Two or more applications are usually found necessary. Purpose of the acid treatment is to reduce the clay content of the sand (which was expanded by water) to a more flocculated state, thus helping to break down the barrier to incoming oil. If results are favorable, a showing of fresh, lively oil will follow the removal of acid. Several wash-downs with salt water or brine should follow the final application so as to remove unspent acid from the shot hole.

If fresh water has been in contact with the sand face for only a brief period of time, a simple yet often effective practice is to fill the shot hole with dry, granular salt. After standing three to five days the brine resulting from the

union of water and dry salt is bailed or pumped out. Salt is known to have a beneficial effect upon the clay content of an oil-sand, and is capable of stimulating capillary action through the exposed surface.

In districts where field conditions justify its use, a far more active reviving agent is acetone. Anywhere from 50 to 200 gallons of this agent (generally commercial grade) are required for each well, but one application is usually sufficient unless the well has been completely killed. Acetone dilutes readily with fresh water and best results are had by pressuring the agent into the sand. Portable units, capable of pumping against pressures of 300 to 500 pounds, are usually chosen for the job.

Certain operators have found mechanical methods more successful than chemical agents for reviving water-logged wells, efforts in most cases being directed toward breaking down Jamin action which has been created in the sand. If fresh water has penetrated the sand evenly in all directions, it will spread in a ring whose center is the well. A temporary pressure applied to the well will push the water farther back into the sand and the ring will diminish in thickness. Eventually, some portion of the ring will weaken sufficiently to break down the barrier and allow the held-up oil to escape.

Slugging the Well

One method of getting this result is to slug the well with air or gas. A light, portable compressor, or even an automobile engine converted into a compressor, will handle such jobs very nicely, and slugging may be done from the casinghead providing the well does not contain any great stretches of open hole. If a water-ring has formed immediately behind the sand face, it can often be broken with light charges of nitroglycerin, or gelatin in packs of 50 to 100 pounds.

A similar effect is sometimes accomplished with a suction pump, creating a temporary vacuum on the well. Some operators apply heat to the sand-face for a continuous period of ten to twelve hours, using for the purpose, a small gas burner or compact electric heating unit. Since no two wells are affected alike by water, no one specific remedy is adaptable to all cases. If a treated well shows promise but does not readily come back to paying production, it is best to close it in, after first making sure that casing and tubing are free of leaks. Many such wells can be eventually worked into a recovery pattern.

In arranging any property for future oil recovery some new wells are necessary and upon properties where fresh water has encroached, it is advisable to locate an occasional new well behind those which have previously been used as water inputs. Such wells are likely to be highly productive for a time by natural pumping, but they must be completed and shot with future oil recovery in view. Re-drilling provides a good opportunity for closer sand study and observation, and very short screws should be taken, along with accurate measurements, as soon as the pay sand is reached. Arrangements are then made to shoot the tight and more restricted zones as heavily as possible. Open and very porous stretches of sand should be fractured lightly if shot at all. Fresh water will begin to show up soon after the oil-bank has been depleted in volume so as to equal the normal pressure within the sand.

Pumping Behavior

Pumping behavior must be observed closely with more frequent "pump-offs." It is a damaging practice to keep raising the tubing as water increases in volume. Many good wells have been ruined by allowing a head of water to accumulate, forming a water-cone in the sand at the base of the well. When water volume becomes excessive for profitable pumping, the lower and more porous zones of sand (which generally carry the most water) are packed or cemented off. If later recovery methods justify the use of those sand zones the cement filler can be blasted and cleaned out.

Another favorite water section is the short stretch of formation (commonly called the gas cap) which is located at the extreme top of the pay. In the majority of old fields, this zone contains low-pressure gas and water, but if accurate measurements are known, repairs can usually be made by filling the shot-hole with ordinary building sand to within a few inches of the stratum it is desired to plug off. The sand-pack is saturated with water, and enough cement slurry run in to fill the cavity to above the lower end of the casing. After the cement has set, the hole is drilled through the bridge, and the sand is pumped or bailed from the shot hole. The more restricted but less watered zones can then be pumped to better advantage, and later, if air or gas is used as a pressuring medium, many such wells can be converted temporarily at least, into inputs. After a substantial air or gas bank has been established in the sand, heavier slugging (intermittent injection) can be directed against the old water inputs.

Further beneficial effects are obtained by allowing, temporarily, the more distant producers to "head up" while pressures are lowered on the inputs. Various ways of applying and directing pressure constantly weaken the water barrier, and release more or less trapped oil.

While it is impossible entirely to overcome all the adverse effects of a careless water flood, much oil can be salvaged from a property by corrective methods. The producer, however, who has had the reconditioning experience, or has observed it upon a neighboring property is not likely to repeat the experiment nor to apply any other major principle without at least a working knowledge of its application. He finds that an oil-bearing sand is a very complicated and widely diversified structure which justifies far more study and attention than has been accorded it in the past. Much sand knowledge has already been gained through trial and error methods in the field. More is being gained constantly through research effort, especially as it applies to sand analysis as to oil-content, porosity, and adaptability to specific recovery measures.

An open opportunity is thus being provided in most districts for a better understanding of the "whys" and "wherefores" of what is actually taking place underground. By directing inventive talent toward a practical application of this knowledge in the field, the producer can now eliminate many former mistakes and bring oil to the tanks with much less effort and expense.

Collections From Federal Oil Taxes Top $41 Million

Collections from the three federal oil taxes topped $41 million in April, compared with $33 million the preceding month and something less than $40 million in the corresponding month last year, it was announced last week by the Internal Revenue Bureau.

Gasoline-tax revenue was $33,957,566 against $27,578,547 in March, the bureau reported, and $5,917,015 was secured from lubricating oils against $4,756,138, and $1,371,552 from pipe-line transportation against $1,071,891.

For the four months ended with April, bureau records show that gasoline returned $130,030,770 against $115,569,594 last year, lubricating oils $24,673,412 against $20,203,204, and transportation $5,476,235 against $4,813,124.

Persian-Soviet Oil Pact Seen Delayed Until 1948

Ratification of the Soviet-Persian oil concession which was agreed upon a year ago, is now likely to be postponed until 1948. Although elections to the new Majlis (congress) have been completed, it is not expected to assemble for another month.

On reassembling the Majlis will have to deal with a mass of legislation by decree which has accumulated during the period when it was dissolved. It is probable that this will take a further five to six months, and only after that will the oil concession be considered, if by that time the minister favoring the ratification have not been eliminated.

Depletion and Depreciation In Oil Production ACCOUNTING

By ROBERT M. PITCHER, Accountant

THE development and operation of oil-producing properties present certain accounting problems peculiar to the production of a natural resource. The primary object of any accounting plan is to provide management with accurate and adequate information regarding financial status and the results of operating policies. A secondary purpose of the accounting plan, which too often becomes primary in the mind of the accountant, is to furnish information from which correct income tax returns can be prepared with facility. It is important, therefore, that the requirements of both federal and state income tax laws and regulations be considered carefully in the planning and operation of the oil producer's accounts.

A special feature of accounting for the production of any natural resource such as petroleum is the measure of the exhaustion of that resource as production continues, known commonly as depletion. The amount of crude that can be produced from a property corresponds to a merchant's stock-in-trade or to a manufacturer's stock of goods offered for sale. The merchant or manufacturer does not fail to include the unit cost of goods sold in computing his profit or loss. The oil producer, when calculating his net earning, should not make the mistake of failing to take into consideration for each accounting period the unit cost value of the oil he has produced. This is the cost item that is termed depletion.

The oil producer can determine accurately how much the oil in the ground has cost him since that cost consists of the amounts he has expended for his leasehold or fee ownership and for development and equipment to bring the oil to the surface. He cannot calculate exactly the unit cost of that oil, however, due to the fact that he cannot measure definitely the amount of oil he can recover from a property before it is produced. This condition necessitates the preparation of an estimate of the probable gross production. The estimate will be based on various factors such as the saturation, thickness, porosity, permeability, and other conditions of the producing formation, as well as on the history of other producing wells in the same kind of formation. The use of such a carefully prepared engineering estimate will result in an approximately correct unit cost of the oil in the ground. The estimate doubtless will need revision from year to year as operation proceeds and changing conditions become evident.

As an example of the method followed in computing the depletion unit, assume the following data with respect to a developed property:

Cost of leasehold .....$ 4,500.00
Cost of intangible development for one well..... 18,000.00

Failure to include both depletion and depreciation costs in any accounting period may mislead management on actual operations of a property. Methods for handling these items, with especial application to producing properties, are outlined and illustrated with examples to demonstrate the distribution of such costs on equipment and against actual production. The article carries two suggested forms for such accounting.

Cost of equipment for one well 15,000.00
Estimated ultimate recovery for operator's proportion—
From entire lease...400,000 barrels
From one well drilled 100,000 barrels
The depletion unit is calculated as follows:

Unit for leasehold cost—
$4,500 ÷ 400,000 = $0.01125 per bbl.
Unit for intangible cost—
$18,000 ÷ 100,000 = $0.18000 per bbl.
Total Unit Cost ....$0.19125 per bbl.

The equipment cost is not considered in the calculation of the depletion unit since that cost is taken up through depreciation. The intangible development costs can be charged to expense for income tax purposes if the operator elects to treat them in that manner. If they are so treated, the only unit used for cost depletion for taxable income is the leasehold unit. Some operators capitalize the intangible costs for financial purposes, and charge them to expense for income tax purposes. Assuming that the amount of production for an accounting period is 3000 barrels, and that the intangible costs are capitalized, the amount of depletion charged against income for the period is 3000 x $.19125, or $573.75. The unit as computed will be subject to revision as additional wells are drilled, or as changes may be made in the estimate of ultimate production.

Federal Provision

For federal income tax purposes, the operator will follow the present income tax law which provides: "In the case of oil and gas wells the allowance for depletion under Sect. 23 (m) shall be 27½ percentum of the gross income from the property during the taxable year, excluding from such gross income an amount equal to any rents or royalties paid or incurred by the taxpayer in respect of the property. Such allowance shall not exceed 50 percentum of the net income of the taxpayer (computed without allowance for depletion) from the property, except that in no case shall the depletion allowance under Sect. 23 (m) be less than it would be if computed without reference to this paragraph."

Under this provision of the law the operator can compute depletion in arriving at his taxable income by either the percentage or statutory method, or by the unit cost method, using the method that will produce the greater amount. In case the intangible costs have been charged to expense, the amount of those costs must be included in arriving at the net income from the property, with the result that the property would show little or no net income; the unit cost depletion would then be taken for tax purposes.

In setting up depletion costs for financial purposes, the unit cost method should be used since that method pro-

vides a more nearly accurate measure of the cost value of the oil in place than is arrived at by the percentage or statutory method.

The form for a depletion ledger sheet illustrated here is designed to record not only the amounts of depletion set up for the accounting periods, but also the factors used in computing the unit rate. Postings to the "Costs to be depleted" columns are taken from the ledger in which the leasehold and intangible development costs are carried. It is not necessary to post individual vouchers covering changes in investment costs to this record; the net increase or decrease in such costs for each accounting period can be posted. If any vouchers adjusting the amount of reserve for depletion have been entered in the accounts, it is advisable to post the amounts of such adjustments from the individual vouchers to the column headed "Depletion for Month," and revising the "Total Depletion to Date" and "Balance Not Depleted" in accordance with the amount of adjustment. Items debiting the depletion reserve are posted with red ink.

The measure of decline in value of physical equipment through wear and tear, which is called depreciation, or in some cases, through decline in value, called absolescence, is a feature of cost that enters into the operation of any kind of business in which physical equipment is used. This feature of cost, like depletion, cannot be measured accurately; it must be based on an intelligent estimate of the useful life of the equipment. However, it is an item of actual cost that should not be omitted in arriving at a correct profit or loss result for any accounting period. The methods followed in computing the measure of depreciation cost in oil production accounting differ in some respects from those applied in many other lines of industry.

Two methods of calculating depreciation cost are used by oil production accountants; one is the percentage method; the other is the unit-cost method. The percentage method can be applied to all classes of physical equipment, while the unit-cost method can be applied only to equipment for which a production unit can be established. When the unit-cost method can be followed, it has certain advantages that make it preferable to the percentage method. One of these advantages is that the amount of depreciation cost set up in the accounts for each accounting period is in ratio to the quantity of oil production; another advantage is the avoidance of argument with income tax authorities over percentage rates used by the producer. When the estimate of ultimate production from a property is accepted by the income tax department, that estimate is used for calculation of unit-cost depreciation as well as for cost depletion.

The application of the percentage method of computing depreciation cost requires that an estimate be made of the probable useful life of the equipment, and of its approximate salvage value at the time its use will be discontinued. The different classes of equipment on a producing oil property will have varying periods of useful life. It is not practicable to attempt to apply a separate percentage rate to each of the various items or classes of equipment. A composite rate is computed and is applied to the total equipment cost after deducting the estimated salvage value. For example, we will assume that a producing property has the following classes of equipment costs after estimated salvage allowance: Buildings, $3600; estimated life, 20 years; annual rate of depreciation, 5 percent, amount $180. Pipe and fittings, including casing, $24,000; estimated life, ten years; annual rate, 10 percent, amount, $2400. Pumping equipment, $3200; estimated life, eight years; annual rate, 12½ percent, amount, $400. Other equipment, $2200; estimated life, five years; annual rate, 20 percent, amount, $440. The total amount of these costs, $33,000, divided into the total amount of depreciation at the different rates gives a composite annual rate of approximately 10.36 percent; one-twelfth of this rate, 0.0086, is applied to the amount of equipment costs, $33,000, to compute the measure of depreciation cost for each month. This rate will continue to be used until a change in the equipment costs requires the calculation of a revised composite rate.

The unit-cost method of calculating depreciation cost follows a procedure similar to that used in computing cost depletion. A "per-barrel" unit is obtained by dividing the amount of estimated ultimate production into the net equipment costs after deducting the estimated salvage value. Assuming that the equipment costs after salvage allowance, when a lease has been newly developed, are $33,000, and that the estimated oil recovery is 100,000 barrels, the unit rate will be $33,000 divided by 100,000, or $0.33 per barrel of production.

As changes occur in the equipment

About the Author

Robert M. Pitcher, practicing accountant of Tulsa, has had many years of industrial experience, principally in oil production. He is the author of "Practical Accounting for oil Producers," published in 1938, and recently revised and elaborated in a new edition. Having served in an executive capacity, he has the advantage of viewing accounting problems from the executive as well as from the accountant's viewpoint. Since 1939 he has been teaching the subject of oil production accounting in the Downtown Division of the University of Tulsa.

Depletion Ledger

Lease_____ **No.**_____

Date	Voucher		COSTS TO BE DEPLETED			ESTIMATED RECOVERY			Unit Rate Per Barrel	Production Barrels	Depletion For Month	Total Depletion to Date	Balance Not Depleted
			Total	Lease-hold	Intangible Develop-ment	Beginning Barrels	Adjust-ments Barrels	Net Barrels					

costs due to additions or removals, it becomes necessary to compute a new cost unit for depreciation purposes. Referring to the example in the preceding paragraph, we will assume that after the lease has been producing for six months, the equipment costs are increased by the addition of new items amounting to $3000. During the six months' period the well has produced 9000 barrels of oil for the operator's proportion. Having used an estimate of 10 percent for salvage in arriving at the net amount of $33,000 for the equipment as shown in the preceding paragraph, the cost value would have been $33,000 divided by 0.90, or $36,666.67. Using the foregoing amounts, the new depreciation unit is obtained by the following calculation:

Cost of equipment, first of month	$36,666.67
Additions during month	3,000.00
Total cost of equipment	39,666.67
Estimated salvage value	3,966.67
Depreciation taken over six months period— 9000x$0.33	2,970.00
Balance to be depreciated	32,730.00
Estimated ultimate production from beginning	100,000 bbls.
Produced, six months' period	9,000 bbls.
Balance to be recovered	91,000 bbls.
Unit rate for depreciation $32,730 divided by 91,000	$0.359671 per bbl.

Revised Unit

At the beginning of each accounting year a revised depreciant unit is computed by the method outlined above. This revised unit of depreciation cost is applied to the monthly production until further changes occur in the equipment costs during the year, or in the estimated quantity of recoverable oil. The computation of salvage value will be affected by the manner in which book losses from removal of equipment are handled in the accounts. This feature is discussed in the following paragraphs.

Tranfers of equipment items from one producing property to another producing property are frequent in oil producing operations. When there is no change in ownership of the transferred equipment, no profit or loss should result in the accounts from the transfer. For example, suppose that a quantity of equipment originally costing $1800 is transferred from one fully owned property to another fully owned property. The amount of depreciation set up for the transferred equipment to the time of transfer should be determined if possible. It is possible to determine the amount of such depreciation, at least approximately, if the depreciation record has been maintained in a correct manner. In this example we will assume that we find that the amount of depreciation that has been set up for the transferred equipment is $540. The voucher prepared to record the transfer will contain the following debits and credits:

Debit producing properties, Lease 2	$1800
Reserve for depreciation, Lease 1	540
Credit Producing properties, Lease 1	1800
Reserve for depreciation, Lease 2	540

The above voucher serves to transfer both the costs of the equipment and the depreciation reserve from one property to the other. Some accountants may prefer to charge the equipment to Lease 2 at the residual cost, $1800 minus $540, or $1260. If this procedure is followed, there is no amount credited to the reserve for depreciation of Lease 2.

When a transfer of equipment involves a change of ownership, a book profit or a book loss usually results in the accounts, due to the fact that the transfer price is seldom the same as the residual cost of the equipment. Because of the present federal income tax requirements, a book loss from such a transfer of equipment cannot be used as a deduction from income for income tax purposes. A book profit from a transfer of this nature is treated for income tax purposes as an addition to income. It is usually taken up in an account called Sales of Capital Assets, or some similar title.

Book Losses

Book losses from the transfer of equipment in which there is a change of ownership can be handled by either of the following methods:

1. Charge the amount of the book loss to the reserve for depreciation for the property from which the equipment was removed; or,

2. Charge the amount of the book loss back to the Producing Properties (Investment) account for the lease from which the equipment was removed, in a separate classification, known as Material Adjustment, Losses, Depreciation and Adjustment (abbreviated as L.D. and A.), or other appropriate title. This latter method leaves in the investment account for the property the total of book losses from equipment transfers. Depreciation is computed on the investment including these material adjustment or L.D. and A. items.

The following example is presented to illustrate the manner of handling book losses from transfer of equipment in the accounts:

Original cost of equipment to Lease 3, fully owned	$1500
Depreciation taken to date of transfer	600
Residual cost	900
Transferred to Lease 4, an outside interest lease in which the operator of Lease 3 has a one-half interest, at an agreed price of	750
Book loss	150

Under the first method stated in the previous paragraph, the voucher entries are

Debit outside interest properties. Lease 4	$ 750

Depreciation Ledger

Lease_____ No._____

Date	Voucher No.		Net Investment	Amount Subject to Depreciation: Estimate Salvage	Depreciation Taken	Net Amount for Depreciation	Estimate Ultimate Recovery, Barrels	Unit Rate or Percentage Rate	Production Barrels	DEPRECIATION: For Month	Adjustments	Net Balance	Balance to be Depreciated	Balance Not Depleted

Reserve for depreciation
Lease 3
$600.00 + 150.00..... 750
Credit producing properties.... 1500
Lease 3

If the second method is followed the voucher entries are

Debit outside interest properties.$ 750
Lease 4
Reserve for depreciation 600
Lease 3
Producing properties, (L.D. and A.) 150
Lease 3
Credit producing properties.... 1500
Lease 3

From this voucher an amount of $150 is returned to the investment account to be taken up through depreciation in succeeding accounting periods. When a balance sheet is prepared at the end of any accounting period, the total of all the L.D. and A. items is deducted from the total lease investment costs, and from the total reserve for depreciation for lease equipment, but no book entry is made for the adjustment.

Computing-Depreciation Unit

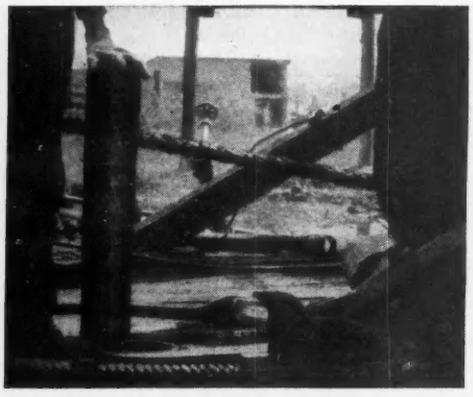
The accumulation of L.D. and A. amounts in the Producing Properties account must be taken into consideration in computing the estimated salvage value, since the L.D. and A. items have no salvage value. As an example of the procedure followed in computing the depreciation unit when L.D. and A. items are carried into the investment account, we will assume the following items for a producing property:

Total equipment costs	$24,000
L.D. and A. items included	640
Depreciation taken to date	13,500
Original estimate of ultimate production	160,000 bbls.
Production to date	90,000 bbls.
Calculation of depreciation unit—	
Equipment cost	24,000
Minus L.D. and A. items	640
Balance subject to salvage	23,360
Estimated salvage value—10%	2,336
Equipment cost	24,000
Minus—	
Estimated Salvage	$ 2,336
Depreciation taken	13,500 15,836
Balance subject to depreciation	8,164
Estimated ultimate production	160,000 bbls.
Production to date	90,000 bbls.
Balance to be produced	70,000 bbls.
Depreciation unit per barrel $8,164 divided by 70,000	$0.116628

Depreciation Ledger

The form for a depreciation ledger which we present is similar to the form previously illustrated for the depletion ledger. This form is designed to show the factors from which the unit cost per barrel is computed as well as the amounts set up for depreciation each accounting period. The "net investment" amount is taken from the ledger accounts in which equipment accounts are carried, posting the net changes for each accounting period rather than posting individual vouchers. When any vouchers are entered in the accounts that adjust the depreciation reserve. it is good practice to make individual postings of those vouchers in this record and to adjust the "Net Balance" and "Balance to Be Depreciated" columns. The form can be used for a record of depreciation calculated by either unit-cost or percentage method.

In conclusion, we urge the importance of including both depletion costs and depreciation costs in arriving at as correct a profit or loss result as possible for any accounting period. While these classes of cost are of necessity measured by estimated figures, they are actual items of cost. Failure to include them in the accounts currently may result in misleading the management regarding the financial results of the oil producing operations.



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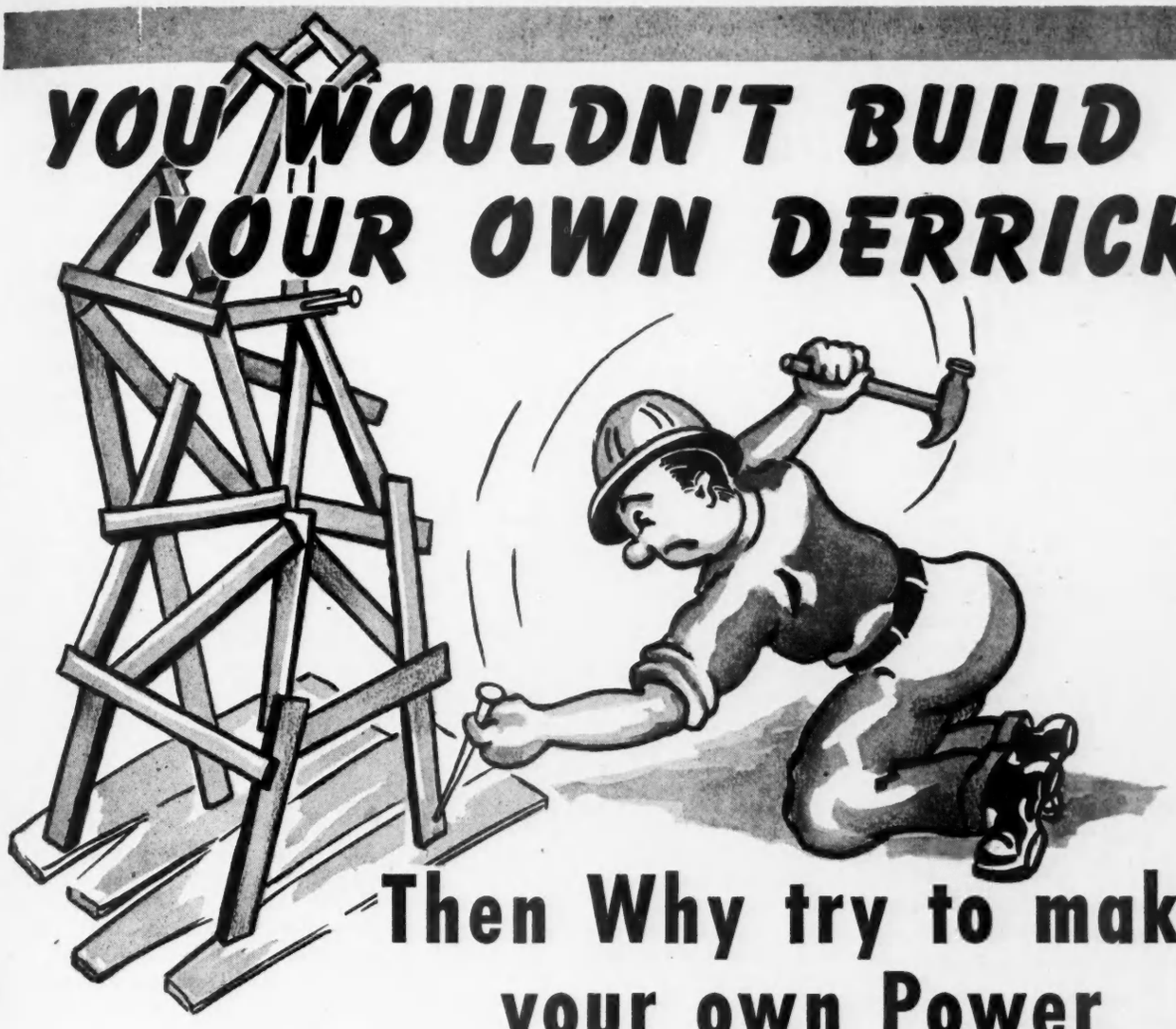

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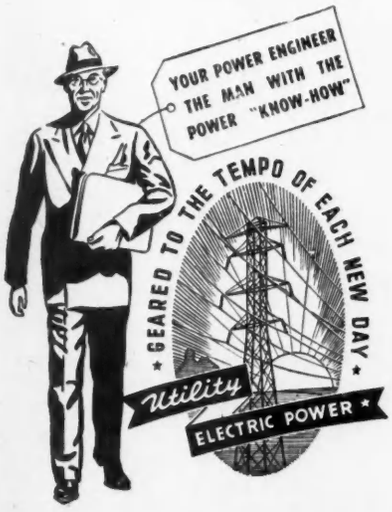

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Important Part, This—

Independents' Role In Finding Oil Reserves

By L. J. LOGAN
Associate Editor

It's two-to-one that the independent operator will find the new field and better than three-to-one that he will drill the exploratory well, although the 32 largest companies have a four-to-one lead in reserves. The extent of the activity of the independents and their importance to the oil industry is brought out in the accompanying data.

THE petroleum industry, with its far-flung facilities, world-wide operations, billions of dollars of capital investment, and large financial risks, is an outstanding example of modern "big business." Many of the operations require so many millions of dollars that they can be undertaken only by companies with vast financial resources or by partnerships of such concerns. These operations include especially the large trunk pipe lines, tanker fleets, large modern refineries, and development of foreign concessions.

It is somewhat of a phenomenon, therefore, that one particular phase of the American petroleum industry, the fundamental phase of finding new reserves, remains remarkably individualized and decentralized. The perennial finding of new accumulations of oil and gas, without which the industry would languish and dry up, is carried out in the United States in a remarkably large proportion by smaller companies and independent operators. Conversely, larger companies do a relatively smaller proportion of the necessary oil finding—a smaller part than might be expected in view of their dominance in refining, transportation, and even production and eventual ownership of proved reserves.

In the all-time record wildcatting year of 1946, records reveal that 37 of the larger companies, including most of the majors and middle-sized concerns, completed only one third of the successful exploratory wells in the United States, while the other two thirds of such reserve-proving wells were completed by smaller companies and independent operators. It is true that discoveries came harder for the smaller operators. They suffered relatively more failures in their wildcatting, but they drilled many more wildcats, and their setbacks only added to the lustre of their net accomplishment of completing two thirds of the year's productive exploratory wells.

Find Twice As Much Oil

Data are not available which would permit determination of the number of barrels of additional or new oil found by the large and small companies. However, it can be assumed that the fields found by the small operators, on the average, were equal to those found by the bigger firms. Consequently, if the numerous small organizations completed two thirds of the wildcat wells which discovered oil it would appear that they were responsible for two thirds of the volume of new oil found in 1946, or twice as much as their larger competitors.

While the record for 1946 is cited above, that for 1945 was quite similar and the important role of the smaller operators in finding new reserves is traditional and characteristic of the industry's normal, highly competitive operations. Oil is where you find it, and it can be found in spots scattered over millions of acres, by any of thousands of individuals or groups perennially searching for it. In so far as they succeed, they contribute toward meeting the industry's demand for reserves and proportionally reduce the necessary oil-finding on the part of others. In this way, although larger companies operate a relatively large part of the industry's refining facilities, they find their requirements for crude oil fulfilled in substan-

Relative Activity of Larger and Smaller Companies in Discovering New Reserves in U. S. in 1946

		[1]37 LARGER COMPANIES		ALL OTHER COMPANIES	
	All Companies	Total	Percent of U. S.	Total	Percent of U. S.
Total New Wells Completed	30,221	7,103	23.5	23,118	76.5
Total Exploratory Wells Completed	4,830	1,029	21.3	3,801	78.7
[2]Productive	935	310	33.2	625	66.8
[3]Dry	3,895	719	18.5	3,176	81.5
[4]Strict Wildcats Completed	4,206	797	18.9	3,409	81.1
Productive	411	116	28.2	295	71.8
Dry	3,795	681	17.9	3,114	82.1
New Fields Discovered	411	116	28.2	295	71.8
Oil	308	77	25.0	231	75.0
Condensate	29	16	55.2	13	44.8
Gas	74	23	31.1	51	68.9
New Pay Zones Discovered	276	122	44.2	154	55.8
Oil	205	88	42.9	117	57.1
Condensate	42	24	57.1	18	42.9
Gas	29	10	34.5	19	65.5
Exploratory Extensions of Fields	248	72	29.0	176	71.0
Oil	160	46	28.8	114	71.2
Condensate	7	4	57.1	3	42.9
Gas	81	22	27.2	59	72.8

[1] Amerada, Atlantic, Barnsdall, California Co., Carter, Cities Service, Continental, Deep Rock, General Pet., Gulf, Hope Nat'l Gas, Humble, Magnolia, Mid-Continent, Ohio Oil, Pan American, Phillips, Pure, Richfield, Seaboard, Shell, Sinclair, Skelly, Shoio, Standard of Calif., Standard of Texas, Stanolind, Sun, Sun-C. H. Murphy, Sunray, Superior of Calif., The Texas Co., Tex. Pacific C. & O., Tide Water Assoc., Union of Calif., Union Producing, United Prod. Co.

[2] In addition to discovery wells of entirely new fields this item includes successful outposts or major extension wells and wells proving new pays.

[3] Besides dry wildcats, this includes dry ouposts and dry new pay tests.

[4] Exclusive of all tests seeking new pay zones or attempting to extend known fields.

Relative Status of Larger and Smaller Companies in Ownership of U. S. Crude Reserves[1]

	Barrels 1-1-46	Percent of U.S. Total
Reserves Held by 32 Companies[2]	16,979,400,000	81.5
Reserves Held by All Other Companies	3,847,413,000	18.5
Total U. S. Reserves, All Companies	20,826,813,000	100.0

[1] Data obtained by tabulating figures for 32 companies embodied in "Petroleum, 1946," a booklet published by Merril, Lynch, Pierce, Fenner and Beane, investment brokers. This figure was then subtracted from U. S. total reserves to obtain information for all other companies.

[2] Amerada, Atalntic, Barnsdall, Cities Service, Continental, Gulf, Lion, Louisiana Land & Exploration, Mid-Continent, Ohio Oil, Phillips, Plymouth, Pure, Richfield, Seaboard, Shamrock Oil & Gas, Shell Union, Sinclair, Skelly, Socony-Vacuum, Standard of Calif., Standard of Indiana, Standard of New Jersey (incl. Humble), Standard of Ohio, Sun, Sunray, Superior, Texas Gulf Producing, Texas Pacific Coal & Oil The Texas Co., Tide Water Associated, Union of Calif.

tial degree through the discoveries of smaller concerns and operators, sometimes purchasing the discoverer's production as he develops it, sometimes buying his properties, or sometimes holding or acquiring adjacent productive acreage proved by the discovery. In many cases, an independent operator is able to drill his wildcat only through arrangements whereby larger companies interested in the prospect cooperate in financing the well, for the possible mutual benefit of all concerned. From this standpoint, the larger companies actually make possible many discoveries which are recorded as strikes by the independents.

In the aggregate, the larger companies eventually acquire ownership of a relatively large proportion of the total proved reserves, just as they hold relatively large proportion of the industry's refining facilities, the reserves being needed to assure fulfillment of plant requirement for crude. As of January 1, 1946, 32 companies held 81.5 percent of the estimated proved reserves of the United States, as shown in a table herewith. The rest of the industry, including the independents who loom so large in discovering new fields, held the remaining 18.5 percent of the nation's developed reserves.

Exploratory Record in 1946

While the smaller companies and individual operators accounted for two thirds of the successful exploratory wells completed in 1946, they did more than three fourths of both the exploratory and the total drilling of the year and drilled over four-fifths of the dry holes, as shown in an accompanying table. In the field of strict wildcatting, in areas well outside of proved pools, the independents accounted for 81.1 percent of the total completions, and they found 71.8 percent of all entirely new fields. They found 75 percent of the new oil fields, 68.9 percent of the new gas fields, and 44.8 percent of the new condensate fields.

The independents had a very similar record in providing exploratory extensions of established fields. They accounted for 71 percent of all extensions considered in these statistics, 71.2 percent of those involving oil production, 72.8 percent of gas production extensions, and 42.9 percent of the extensions of condensate reservoirs.

In proving up new pay zones for established fields, the independents were relatively less active than in the field of strict wildcatting. They accounted for 55.8 percent of the total new pay zone discoveries, 57.1 percent of the new oil pays found, 65.5 percent of the new gas producing zones, and 42.9 percent of the new condensate pay zones in established fields.

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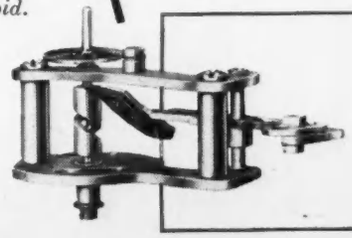

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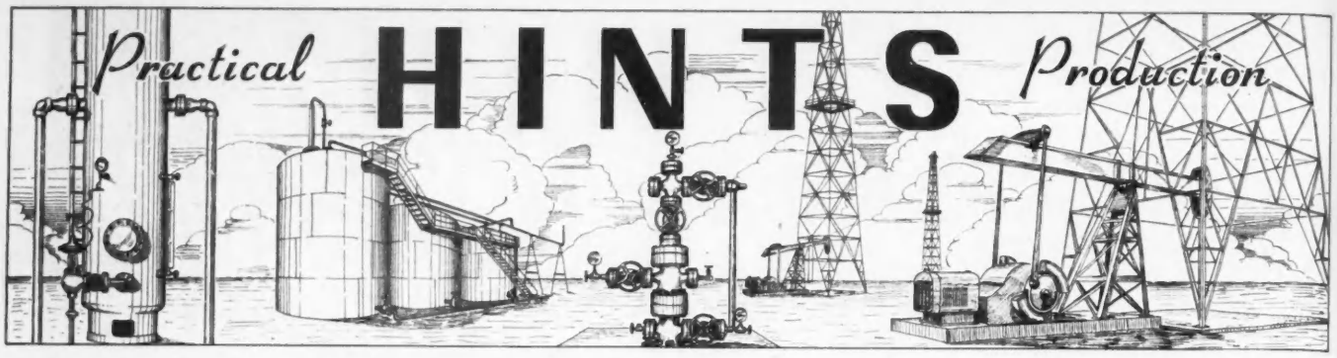


$10.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

How To—

Protect Engine Intake

ENGINE CARE

Pumping schedules require that internal-combustion engines used to drive pumping units operate regardless of weather conditions. During heavy rains extra precautions must be observed to avoid drawing water into the intake where it will form a gummy emulsion with the oil in the air cleaner—if such unit be used—or will pass directly into the intake manifold and cause rusting, as well as introduce factors which disturb the air-fuel balance.

One operator, finding that the sweep of air across the edge of the standard ell usually placed atop the intake riser sometimes carried water into the engine, replaced the ell with a hood or shield. The cover consists of a cone of light sheet metal, with a maximum diameter some three times that of the intake pipe. The cone is supported on a bracket which slips over the pipe, clamping in place so that there is clearance over the top of the pipe at least equal to pipe diameter.

With the wide spread of the edge of the hood the velocity of the air passing under it is nowhere sufficient to pick up and carry with it droplets of water forming as rain runs off the device, thus assuring a dry intake no matter how severe the weather.

How To—

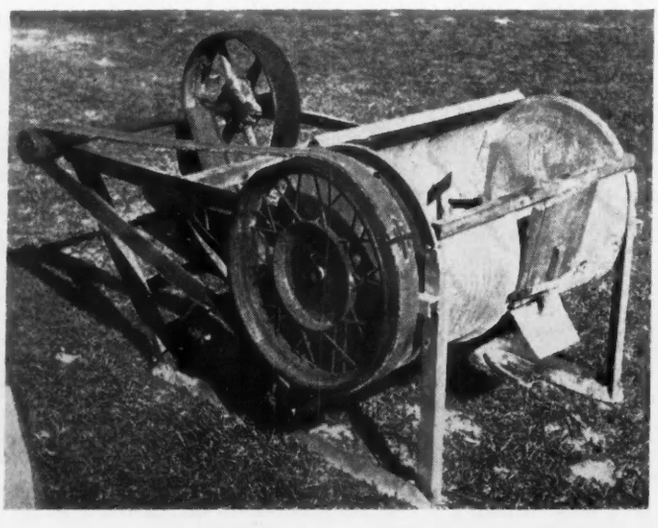
Improvise Concrete Mixer

Mixing of concrete for the little jobs around the lease, such as setting fence posts, making foundations for rod line supports, and other units which do not require large batches of mix is a chore usually attempted with the aid of a box or wide trough, in which the ingredients are hand-mixed, and then thinned with water. One foreman, already short-handed, solved the problem of mixing small batches without bringing in extra help, and without extra power.

MATERIAL HANDLING

An ordinary side-bung drum was mounted in a frame, with bung opening downward, and the upper quarter of the side of the drum removed with a torch. Inside the drum, on plain sleeve bearings, was mounted a shaft with six arms bearing paddles. The shaft was driven through a salvaged wire wheel which served as one pulley in a rough but serviceable belt reduction system. Power came from the foreman's car, which was backed until one rear wheel, jacked clear of the ground, contacted the other large pulley. With the car gear in low, and the engine idling smoothly, the rotor in the improvised mixer quickly stirred up the batch which, when properly tempered was drawn off through the door shown in the front side of the unit.

After completion of a job the drum was partly filled with water, the rotor turned until paddles and wall were washed down, after which the bung plug was removed and the unit drained.



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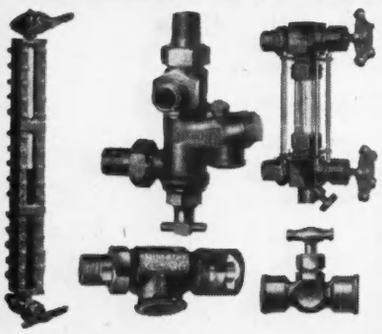

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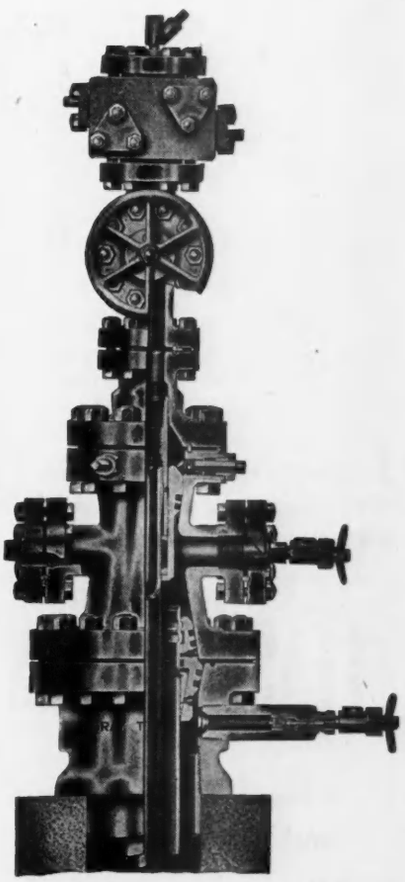

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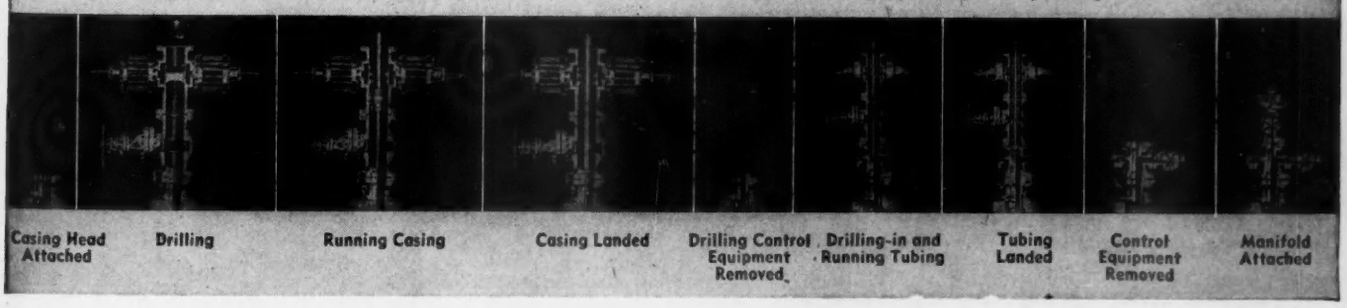

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How To—

Install Gas Scrubber

FUEL CLEANING

On leases where residue gas from gasoline plants is used for motor fuel, the gas may carry fine particles of rust or other foreign matter. One operator installed a gas scrubber which has an oil bath to clean the gas. Such a scrubber is illustrated, together with the connections between the residue line and the prime mover of the pumping unit.

The lower part of the scrubber, containing the oil is constructed of 10-inch pipe, with the two-inch inlet line shown on the left, running to a point within an inch or two of the top. Thin lubricating oil is poured into a one-inch opening near the top.

After the gas passes through the oil bath, it reaches the regulator where the pressure is cut to ounces for use in the engine. A six-inch pipe mounted on, but not connected to the 10-inch scrubber except through the regulator, is used as a volume chamber to prevent fluctuations in the gas pressure to the engine. The gas is then conveyed overhead to the carburetor of the engine by means of a one-inch line and rubber hose, to allow the engine to vibrate without disturbing the gas line.

How To—

Protect Truck Cab

LIFTING DEVICES

Where trucks are equipped with long boomers for unloading pipe, pulling water wells, or hoisting jobs, it is necessary to carry these long sections of supports beside the cab of the truck when en route to and from the job. For these boomer poles or other long pieces of piping material, one contractor has a hinged support which may be swung out of the way when the braces for the boomer are in place, and re-set with the same pin when the boomers are taken down.

A ⅜-inch plate steel with a 2½-inch hole is welded to the side of the headache post of the truck, and a short piece of two-inch pipe which has been miter-welded into an "S" shape with holes in the end to receive the pin is thrust through the hole. A half-inch by 1½-inch bar is welded upright to the horizontal part of the two-inch piece which rises through the hole in the plate.

In operation, the support is held in place with the hinge on one side and the pin on the other. When the brace for the boomer is placed into position, the support is swung free as shown. This arrangement has proven satisfactory.

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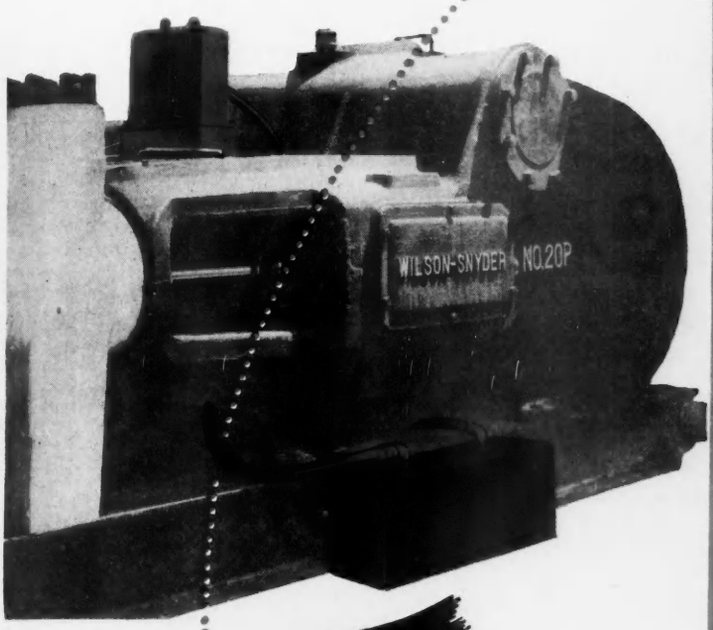

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The complete unit consists of two separate parts—the lubricant storage reservoir and the lubricator. The source of vacuum is obtained from the intake manifold of the engine on power driven pumps; or a very small steam jet is furnished where steam driven pumps are being used.

This lubricator is made of aluminum and is mounted above piston rods (as shown at left). There is only one working part, that is the float operated toggle valve in the upper chamber.

The Sump (also shown at left) receives all excess lubricant which is returned to the lubricator for continuous use.

Lubricator may be put into operation before starting the pump,—eliminating any dry strokes of the rods.

By use of the Wilson "Little Gusher" Lubricator life of Slush Pump Rods are increased many times and costly shut down time reduced to a great extent.

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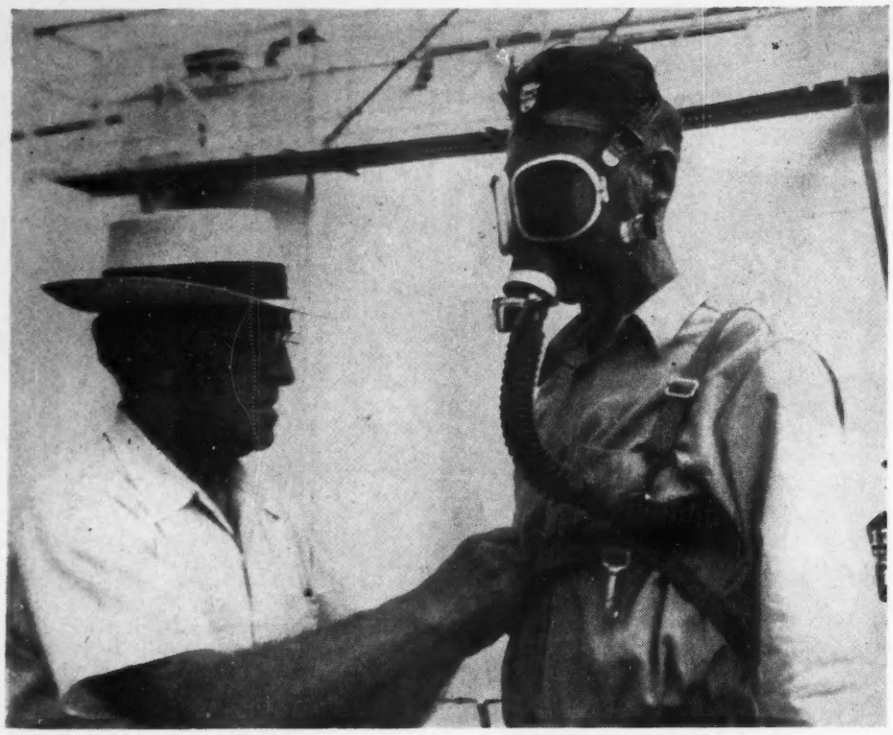

E. D. Murphy, safety engineer, adjusts a gas mask worn by J. Price Smith, who will test the mask in tank hatches in the background.
Photo by Lawrence Brent, Mid-Continent Petroleum Corporation

Precautions Against Hydrogen Sulphide in Sour Gas

By WILLIAM P. STERNE
Staff Writer

IN ORDER to combat the lethal quantities of hydrogen sulphide in sour gas, which constitutes a menace to the lives of operating personnel in producing fields, Mid-Continent Petroleum Corporation, Tulsa, has set up a special program of safety instruction under the direction of E. D. Murphy, safety engineer.

This program has been brought to the individual attention of each employe exposed to the dangers of hydrogen sulphide in his normal duties around wells, tank batteries, separators, cellars, burn pits or other places where contact with dangerous gases might be expected.

Since the start of the safety program, each of these employes has been furnished with his own gas mask and has been instructed in its proper use. The masks are approved by the Bureau of Mines and are primarily designed to neutralize the effects of petroleum vapors and hydrogen sulphide gas in concentrations not exceeding 2 percent by volume, provided a 16 percent concentration of oxygen is maintained.

Employes are taught that the masks are not to be considered a means of protection against effects of other types of gases, but when properly used, they may be worn with safety by the employe who finds it necessary to effect repairs at a leaking connection in a gas-filled cellar, or by one whose duties in gauging and switching tanks require his presence at tank battery hatches.

Too often hydrogen sulphide claims the life of the unsuspecting or careless oil field worker who comes in contact with this deadly gas. However, its presence it easily detected by its odor, where minute quantities are present.

The gas may also be inhaled in small amounts, but the concentration of hydrogen sulphide in a gaseous mixture cannot be judged with any accuracy, particularly by one who is exposed to the odors of sour gas for long periods.

Texas, New Mexico and Arkansas are states which have producing fields where sour gas is most prevalent. Many of these fields have recently been visited by Murphey as part of his duties as safety engineer. Fortunately, up to the present time there have been no fatalities by asphyxiation among Mid-Continent personnel employed in these sour gas areas.

A few months ago one accident of this nature occurred which could have proved fatal. Ross Strong, who operates the M. W. Sealy lease in Ward County, Texas, was overcome by gas fumes and became unconscious while gauging tanks from the battery walkway. He fell from the walkway to ground level, where the atmosphere was not so highly contaminated with gas vapors. The air contained sufficient oxygen to revive him.

Average of 4,940,000 Barrels Needed, Mines Bureau Says

A daily average production of 4,940,000 barrels of domestic crude is forecast by the Bureau of Mines as necessary to meet June demand, an increase of 69,000 barrels daily over May which is to be met by increased production in ten of the 20 producing states.

The June estimates were accompanied by a revised forecast for 1947 in which the total demand for all oils was raised 1.4 percent over previous predictions to a total of 2,092,400,000 barrels.

However, it was explained in connection with this figure—an increase of 150,200,000 barrels over the 1946 actual—"demand has reached such high levels that the forecast represents more nearly the probable supply of refined products available than the potential ability to consume oil. The limiting factor is refinery capacity."

Refinery capacity, the bureau pointed out, currently is less than contemplated in earlier forecasts due to shutdowns resulting from strikes and fire losses, resulting in larger withdrawals from gasoline stocks and less seasonal increase in fuel-oil inventories than was anticipated. Total crude run to stills, it reported, amounted to 4,843,000 barrels daily in March, are estimated at 4,740,000 in April and 4,910,000 in May, and forecast at 4,980,000 for June.

Imports now are estimated as averaging 482,000 barrels daily for the year against 370,000 last year. The average for the first quarter was 482,000, and estimates place the second quarter at 477,000, third quarter at 480,000, and final quarter at 490,000.

Demand for domestic crude, which was 4,757,000 barrels daily in the first quarter and estimated at 4,845,000 for the current period, will overtake production in the latter half of the year, and average 4,990,000 barrels daily in the third quarter and 4,970,000 in the last quarter, the bureau figured, with an average of 4,891,000 barrels daily for the year against 4,733,000 in 1946. Total demand was 5,919,000 barrels daily in the first quarter and is forecast at 5,613,000 for the present quarter, 5,541,000 for the third quarter and 5,859,000 in the fourth quarter, giving an average for the year of 5,733,000 compared with 5,321,000 in 1946. Crude runs to stills, 4,800,000 barrels daily in the first quarter, are figured at 4,875,000 currently and 5,000,000 for the last two quarters.

"It is believed that the forecast of crude runs to stills of 5,000,000 barrels daily for the last half of the year is close to the probable maximum," the bureau explained. "Local shortages in oil supply have resulted from limitations in pipe line capacity and lack of available tank cars. In order to supply adequate amounts of gasoline and heating oils, the yield of these products may have to be raised at the expense of heavy fuel oil. Normally, the increase in the price of residual fuel oil might result in conversions to coal if an adequate supply of that fuel was assured. In view of the high domestic demand, a downward trend in exports is anticipated. Actual total exports and shipments from continental U. S. amounted to 37,900,000 barrels in the first quarter and are forecast at 37,400,000 for the second quarter, and 36,900,000 barrels for the third quarter, and 34,800,000 for the fourth quarter."

To meet the increased June demand for domestic crude, the bureau estimated that output would have to be raised in Texas from 2,120,000 to 2,155,000 barrels daily; California, 875,000 to 884,000; Louisiana, 411,000 to 418,000; Oklahoma, 380,000 to 385,000; Kansas, 275,000 to 280,000; Wyoming, 108,000 to 114,000; New Mexico, 102,000 to 103,000; Mississippi, 86,000 to 87,000; Colorado, 39,000 to 40,000, and Ohio, 8000 to 8200. The only cutbacks foreseen are in Michigan, 47,000 to 46,000; Nebraska, 700 to 600, and "other," 2100 to 2000. Unchanged will be Illinois with 210,000 barrels daily; Arkansas, 79,000; Pennsylvania, 36,000; Kentucky, 29,000; Montana, 24,000; Indiana, 18,000; New York, 13,200, and West Virginia, 8000.

Record Crude Production Continues; Refinery Output Climbs to New High

Crude was produced and refined at record-breaking levels in the week of June 14, surpassing the all-time highs reached the previous week, according to The API. Refinery production of gasoline and light fuel oils was upped during the period, while the heavier fuels were cut back slightly. Heavy withdrawals from gasoline stocks and build ups of the fuel oils were normal trends for the season.

A new all-time peak in crude production was hit during the week when daily output averaged 5,113,000 barrels. The previous high had been 5,064,000 barrels daily produced in the previous week. The current week's output was an increase of 152,000 barrels a day or 3.1 percent over that of the like period of last year.

Crude runs to refinery stills were boosted to the peak level of 5,164,000 barrels a day in the week, an increase of 16,000 a day over the previous week's runs, and 365,000 a day over those of last year's comparable period. Utilization of 92 percent of the nation's refining capacity was necessary for these record runs to stills.

Stocks of refinable crude totaled 234,849,000 barrels on June 8, according to the Bureau of Mines report, after the record runs of that week lowered inventories 4,521,000 barrels. This latest stocks figure was 16,260,000 barrels or 7.4 percent greater than it had been a year before.

Production of gasoline, which included natural blended, was increased 345,000 barrels over the previous week and totaled 15,695,000 barrels for the seven-day period. That amount was 1,185,000 barrels or 8.2 percent more than was produced in same week last year. At the week's end stocks of finished and unfinished gasoline amounted to 93,356,000 barrels, representing a decrease of 1,466,000 barrels during the week. Stocks are now 93,000 barrels less than were on hand a year ago.

Refinery output of the distillate fuel oils was increased 695,000 barrels to total 5,981,000 barrels for the week, which was 534,000 barrels more than was made in the comparable period of 1946. Stocks of these light fuels totaled 38,285,000 barrels after additions of 1,112,000 barrels, and were 2,703,000 barrels or 7.6 percent greater than stocks a year ago.

Standard of Indiana Enters Crude Market in Louisiana

Standard Oil Company (Indiana), through a subsidiary, entered the Louisiana crude market with initial postings equal to those of other leading buyers in the respective fields. Prices for residual fuels ranged higher at North Atlantic points with announcement of advances of 20 to 30 cents per barrel made by Socony-Vacuum Oil Company.

Stanolind Oil Purchasing Company, crude buying subsidiary of Standard (Indiana), announced initial postings for crude purchased in Louisiana, effective June 1. Schedule for Holly Ridge, Central Louisiana, and Lewisburg and Westwego, South Louisiana, starts at $1.58 for below 20-gravity with 2 cents per degree to 40 and above at $2 per barrel. For Anse La Butte, Bayou Des Allemands and Pine Prairie, Coastal Louisiana, the schedule begins at $1.63 for below 20 with 2 cents differential to $2.05 for 40 and above. For Big Creek and Delhi crude in the northeastern part of the state, the postings range from $1.53 for below 20-gravity to $1.95 for 40 and above, also a 2-cent differential. These prices are comparable to those posted by other leading purchasers March 10.

At the start of the week Socony-Vacuum announced increases of 20 and 30 cents per barrel in its prices for Nos. 5 and 6 fuel oils, to become effective June 17, at six North Atlantic points. Socony's new prices for Nos. 5 and 6 oils; Boston $2.905 and $2.565; Portland $3.045 and $2.565; Providence $2.875 and $2.535; New York harbor $2.77 and $2.52; Albany $2.972 and 2.719; and Philadelphia $2.73 and $2.52. In Buffalo only No. 6 fuel increased to $3.15.

In the announcement the company said, "Socony buys a large portion of crude and residuals to meet its needs. Increased prices of Nos. 5 and 6 fuel reflect higher costs which Socony is paying for crude and residuals."

Quotations for several products ranged higher on the Gulf Coast. One supplier, who had quoted 12 cents for Grade 100 aviation gasoline and 11 cents for Grade 91, advanced his prices 1 cent for both grades. Cargo prices for No. 5 and heavy diesel fuel ranged 10 cents higher, following withdrawal of quotations of $2.25 for both products by one supplier.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 8
1945	4,944	7-21	5,140	8-18	227,554	10-13	99,012	3-24	45,341	11-17	56,074	1- 6
1946	4,961	6-15	4,968	12-28	229,430	3- 2	105,233	2-16	[1]67,286	11- 9	61,036	11- 2
1947	[1]5,113	6-14	[1]5,164	6-14	239,370	5-31	107,576	3-29	58,034	1- 4	53,285	1- 4
Lows:												
1945	3,621	10- 6	3,409	10- 6	[2]211,813	8-25	70,791	10-13	26,483	3-17	38,548	5-26
1946	4,403	3- 9	4,498	1-12	218,193	1- 5	85,324	9-28	25,131	3- 9	37,289	4- 6
1947	4,531	4-11	4,667	4-12	220,313	2- 8	93,356	6-14	31,470	4-19	42,668	4-26

TRENDS OF 1946 AND 1947

Trends in Week Ended	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1946:									
January 5	4,548	4,651	218,193	14,488	98,494	5,923	35,199	8,867	42,371
January 26	4,626	4,553	220,544	13,622	101,737	5,720	29,498	8,411	39,722
February 23	4,714	4,595	226,699	13,175	104,709	5,728	25,398	7,913	39,290
March 30	4,425	4,684	224,994	13,896	104,715	5,337	28,240	8,738	37,746
April 27	4,672	4,685	224,443	14,228	99,631	5,568	30,466	9,204	39,404
May 25	4,759	4,857	222,214	14,312	95,769	5,463	32,973	8,908	43,368
June 29	4,957	4,854	223,883	14,500	92,333	5,325	37,762	8,828	46,477
July 27	4,926	4,896	223,756	14,535	88,626	5,817	44,316	8,217	49,517
August 31	4,833	4,911	227,132	15,014	87,217	5,630	53,134	8,539	53,173
September 28	4,778	4,829	223,043	14,675	85,324	5,632	59,827	8,172	57,657
October 26	4,730	4,758	221,184	14,863	86,423	5,710	65,499	7,728	60,872
November 30	4,795	4,707	227,693	15,145	88,371	5,258	66,062	7,672	58,647
December 28	4,713	4,968	225,995	15,604	93,126	5,931	58,941	8,181	53,427
1947:									
January 4	4,649	4,917	223,291	15,281	94,882	5,857	58,034	8,375	53,285
January 25	4,672	4,820	221,655	14,624	99,801	5,630	50,357	8,224	48,558
February 22	4,786	4,860	224,580	14,668	103,904	5,929	40,739	8,542	44,919
March 29	4,865	4,843	227,529	14,396	107,576	5,969	32,737	8,668	43,364
April 26	4,930	4,725	235,383	14,213	103,860	5,435	32,286	8,186	42,668
May 31	5,024	5,000	239,370	14,709	95,876	5,732	36,032	8,910	45,224
June 7	5,064	5,148	234,849	15,350	94,802	5,286	37,173	9,032	46,779
June 14, 1947	[1]5,113	[1]5,164	.....	15,695	93,356	5,981	38,285	8,960	47,812
June 15, 1946	4,961	4,799	[3]218,589	14,510	93,449	5,447	35,582	8,931	45,915
Changes:									
In Week	+49	+16	—4,521	+345	—1,446	+695	+1,112	—72	+1,033
In Year	+152	+365	+16,260	+1,185	—93	+534	+2,703	+29	+1,897
In Year	+3.1%	+7.6%	+7.4%	+8.2%	—0.1%	+9.8%	+7.6%	+0.3%	+4.1%

[1] All time peak. [2] Lowest since December, 1921. [3] Stocks, June 8, 1946.

• Oklahoma

Noble County Wildcat Opens Wilcox Sand Production

Wilcox sand production opened by Noble County wildcat; Northwest Hawkins pool extended west; 50th oiler added to productive Southwest Antioch pool; wildcat opens gas pool near Okemah; abandoned duster worked over for gas well; 60-day testing period granted for Pharoah well; Carter adds fourth oiler at Katie; wildcat staked near big Eola discovery.

Noble County: The Derby Oil Company's Wiegel 1, NE NE SE 2-21n-2w, which opened a Mississippi lime pool a week ago, apparently will prove Wilcox sand production as well. On a drill-stem test in the Second Wilcox, topped at 5133 feet, the well flowed at an estimated rate of 80 barrels of oil per hour. Casing was cemented at 5126 feet, with total depth 5139 feet. On previous tests of the Mississippi formation at 4814-61 feet, 165 feet of high-gravity oil was recovered, with 500,000 cubic feet of gas. Company officials estimate the well's production from that zone at 500 to 600 barrels daily. The test will be completed in the Second Wilcox. The well is northwest of Perry townsite, between the Sams Northeast and the Polo South pools.

Hughes County: The Northwest Hawkins oil field has been extended ½ mile west by R. W. Brown's Buchner 1, SE SW SE 20-6n-8e. The test showed an estimtaed 25 barrels of oil daily from the Calvin sand, from 852-862 feet. The well will be taken down to the Senora sand before completion.

Garvin County: The 50th producer for the productive Southwest Antioch field has been added by the Sinclair Prairie Oil Company. Hays 2, NW NW SE 18-3n-2w, west offset to a recently-drilled dry hole, flowed 711 barrels of oil in 19 hours through 1-inch choke at 6526-83 feet. Gas was gauged at 1,287,000 cubic feet per day and gas-oil ratio was set at 1433/1. Total depth is 8644 feet.

Okfuskee County: A gas field has been opened north of Okemah townsite, between the old Mason and Morse fields. Deep Fork Drilling Company et al's Callahan 1, SW NW NW 19-12n-10e, tested for an estimated 10 million cubic feet of gas daily after acidizing. Pay is from the Cromwell sand at 3180-219 feet.

Hughes County: Mid-Continent Petroleum Corporation has successfully reworked an abandoned hole near the East Wetumka field, and was completing the well as an extension of the gas area. Originally drilled by Viersen & Cochran, the Wesley 1, NE NE SW 12-9n-10e, was taken to 3965 feet and abandoned in the Wilcox. Mid-Continent reconditioned the hole and ran 5½-inch casing to 3165 feet. Gilcrease sand was perforated with 75 holes at 2530-55 feet, and the well tested 20 million cubic feet daily, with a slight show of water.

Antioch Area: A 60-day testing period has been granted Ned Biffle et al at the Pharoah 1, discovery well in NW NW NW 15-2n-2w, just north of Antioch townsite in Garvin County. Oil production is limited to 250 barrels daily during the testing period. The Magnolia Pipeline Company has completed a line to the well and is moving oil. On a 12-hour gauge the well flowed 121 barrels of oil through a 20/64-inch tubing choke, pay coming from the Pharoah sand, second zone, of the Pennsylvanian, with pipe perforated at 5563-71 feet.

Katie Area: The Carter Oil Company has completed the fourth producer in the Katie pool of southern Garvin County. Roady 1, CSW NW 5-1n-1w, a south offset to the discovery, was finaled for 211 barrels of 40-degree oil per day, flowing through a 10/64-inch choke. The Gibson sand pay was found at 6090 feet, where 7-inch casing was set. Total depth is 6239 feet, with Mayes lime topped at 6210 feet.

Eola Sector: A wildcat has been staked in the Eola area of Garvin County, site of Sohio Petroleum Company's big discovery, the Howard 1. The new test is Sohio's Kennedy 1-A, NW NW NE 26-1n-2w, nearly a mile north of Kennedy 1, NW NW Se Sec. 26, now drilling below 6277 feet.

Caddo County: Weller 51-11, NW NW NE 11-8n-12w, the world's deepest well, has been shut down at total depth of 17,823 feet for electrical log and testing.

Wells Completed in the United States in Week Ended June 14, 1947

Data preliminary and subject to revision. Revised and more complete data on all completions and exploration shown in monthly summaries published in last issue of each month.

State or District	FIELD COMPLETIONS: New Wells: Oil	Dist.	Gas	*Input	Dry	Total	Old Wells Deepened	EXPLORATORY COMPLETIONS: Oil	Dist.	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	This Week 1946
Alabama														1	
Arkansas	2					2							2	3	2
California	24				1	25					7	7	32	28	36
Colorado	3				1	4							4	5	5
Florida											1	1	1	1	1
Illinois	8				6	14		3			5	8	22	37	29
Indiana	3				3	6		1			1	2	8	11	8
Kansas	27		5		9	41					6	6	47	33	36
Kentucky	4		1		4	9		1			1	2	11	16	5
Louisiana	14	1	2		3	20			1		6	7	27	34	18
N. Louisiana	7		2		1	10					3	3	13	20	8
S. Louisiana	7	1			2	10			1		3	4	14	14	10
Michigan	7					7					5	5	12	14	30
Mississippi	14				2	16					6	6	22	10	9
Montana	3				2	5							5	8	13
New Mexico	9		1		1	11	2						13	10	9
New York	14			16		30							30	31	25
Ohio	6		10		6	22							22	34	13
Oklahoma	30		2		22	54	2	3			17	20	76	85	43
Oregon															1
Pennsylvania	20		12	22	5	59							59	61	46
Tennessee															1
Texas	125	2	5		28	160	4	2	1	3	34	40	204	152	173
DISTRICTS:															
1—S. Central	2					2		1			2	3	5	5	2
2—Middle Gulf	4	1	1			6				2	3	5	11	10	[1]
3—Upper Gulf	6		1		5	12					5	5	17	18	12
4—L. Gulf-S.W.	15	1	1		2	19		1	1	1	9	12	31	23	47
5—E. Central	2					2					2	2	4	3	[2]
6—Northeast	7					7	1						8	9	11
7-B—N. Central	9				10	19					4	4	23	6	[3]
7-C—W. Central	7					7	1						8	5	[4]
8—West	47				4	51	2				5	5	58	29	27
9—North	20				5	25					4	4	29	31	68
10—Panhandle	6		2		2	10							10	13	6
West Virginia	2		12		4	18							18	10	16
Wyoming	4					4	1				1	1	6	1	5
Total U.S.	319	3	50	38	97	507	9	10	2	3	90	105	621	585	524

*Includes salt water disposal wells. [1] Middle Gulf included with Lower Gulf-S.W. [2] East Central included with Northeast. [3] North Central included with North. [4] West Central included with West.

• Kansas

Hugoton Gasser Completed For 18½ Million Feet Daily

Hugoton gasser completed for 18½ million cubic feet daily; oil pool looms with testing of Norton County wildcat; gas pool opened in Barton County; Stafford County test apparently opening new oil pool.

Kearny County: Sinclair Prairie Oil Company has completed a gasser in the big Hugoton field, for a flow of 18,581,000 cubic feet daily. Millard 1, center of 3-24s-30w, is producing from the upper and middle Chase sand series, with total depth of 2790 feet. Cities Service Oil Company, also active in the area, finaled Hodge 1, center of 33-24s-30w, for a flow of 15,100,000 cubic feet daily. Pay is from 2600 feet, total depth.

Norton County: Testing is underway at Cities Service's Armstrong 1, wildcat in SW SE SW 25-5s-22w, 5 miles from the Ray West pool. Several good oil shows were logged in the Lansing lime, and good porosity and saturation were found at 3544-49 feet. Shows also were encountered at 3620-30 and at 3697-700 feet.

Barton County: The Kansas-Nebraska Natural Gas Company apparently has

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opened a gas pool a mile northeast of the Pawnee Rock East pool. The Unruh 1, NW NW NW 16-20s-15w, gauged 10,200,000 cubic feet of gas daily on test of the Arbuckle lime at 3734-64 feet. Testing continued.

Stafford County: An oil pool appears likely at Howard Brunson et al's Howard 1, NW NW SE 15-22s-13w. Oil shows were logged in both the Lansing lime and in the Arbuckle, and on a drill stem test at 3514-25 feet in the Lansing 300 feet of oil-cut mud was recovered. Porosity and saturation were found at 3581-88 feet. Arbuckle was topped at 3797 feet, and 5-inch pipe has been cemented at 3798 feet. Total depth is 3803 feet. The well is 1½ miles southwest of the Drach West pool.

• West Texas

Southwestern Ector County Wildcat Has Oil from Strawn

Southwestern Ector County wildcat yields oil from Strawn; Jameson field outpost to produce from Ellenburger, giving area 2 sweet oil pays; important extension given Dollar Hide field; Andector field has Clear Fork-pay discovery.

Ector County: Cities Service Oil Company and Sinclair Prairie Oil Company's Wooten 1, C NE NE PSL 12, Block B-14, 1½ miles northeast of an indicated Devonian discovery by Humble Oil & Refining Company, added the Strawn as a source of production in recovering 2020 feet of high-gravity oil and 240 feet of oil- and gas-cut mud when tester was used at 8068-102 feet. Wooten 1 was drilling Woodford shale at 8250 feet. Base of the Permian correlates 150 feet low. The Strawn was entered at 7990 feet, with elevation 2909 feet. Humble's Yarbrough-Allen 1 missed the Strawn pay due to its high structural position, but indicated oil production in the Devonian, topped at 8188 feet with elevation 2893 feet, and was drilling lime and chert at 8680 feet.

Andector Field: Plymouth Oil Company's Cowden 3-A-12, NE SW T&P Ry. 12, Block 45, T-2-N, and twin to an Ellenburger producer, confirmed Clear Fork production previously indicated by flowing 132 barrels natural on 24-hour test from open hole at 6200-80 feet. It will be acidized. The Tubb zone was entered near the 5980-foot level. This area has 10 Ellenburger producers, averaging 48 feet of exposed pay by perforations or open hole.

Phillips Petroleum Company's TXL 1-M, wildcat between the Goldsmith and TXL fields, was abandoned in Ellenburger at 10,845 feet, having made an unsuccessful try for completion in Clear Fork oil-saturated lime.

Coke County: Sun Oil Company's Allen Jameson 2, ½ mile north of its Crinoidal-pay discovery for the Jameson 4-well field, missed the regular pay due to low structural position, but is showing for an oil discovery from the Ellenburger, topped at 7083 feet with elevation of 2125 feet, due to thinning of the Pennsylvanian beds. Drill-stem test at 7085-110 feet yielded 20 feet of free oil and 180 feet of heavily oil- and gas-cut mud without water. Pipe was cemented at 7083 feet to complete from 27 feet of open hole. Top of Ellenburger correlates 22 feet high to Fred Jameson 1, south offset to the discovery that failed to produce from the Ordovician. Sun's Tubb 1, ⅝ mile northwest outpost, entered the Crinoidal reef at 6249 feet, with elevation 2129 feet, and logged effective oil pay at 6327-60 feet and broken pay to 6480 feet without water. Pipe was set at 6287 feet after favorable drill-stem test.

Andrews County: The Pure Oil Company and Humble's Cowden 1, C SE SW PSL 24, Block A-52, extended the Dollar Hide field 15/16 mile north by east in developing oil flow through testing tool at 7743 feet in Devonian, topped at 7560 feet with elevation of 3169 feet. This outpost correlates higher than any of the 14 Devonian producers, but is 55 feet low to the structurally high Silurian-pay producer, and the outlook is good for the owners to have considerable proved acreage on their 2530-acre lease.

Winkler County: Stanolind Oil & Gas Company and Shell Oil Company's Wheeler 1-F, C NE SW T&P 16, Block 46, ½ mile southeast outpost for the Wheeler multi-pay field, maintained its favorable structural position in entering the Ellenburger at 10,523 feet, or 45 feet high to nearest producer (dual completion). Pipe has been set for dual completion, as this outpost logged thick section of Devonian pay. Development is being materially expanded in the southeast portion of the field since more extensions are due.

Scurry County: Development of the Sharon Ridge "1700" field, which accounted for 20 pumping completions the past 2 months although the area has been on production since June, 1923, is due for considerable new work by reason of new entrants. San Andres Production Company, recent purchaser of 2 properties, is starting 19 tests on its Stimson A and B leases. Ernest L. Wilson and associates likewise have projected a substantial drilling program on recently acquired undeveloped leases.

Crockett County: W. A. Moncrief-Ed. Hyde and Helmerich & Payne, Inc.'s Helbing-Texaco 1, wildcat and 5 miles southwest of Ozona, entered barren Ellenburger at 8690 feet, with elevation of 2488 feet, and tested dry at 8800 feet. It will deepen to water.

Amerada's University 1-CTA, wildcat that cased off probable oil production in upper Ellenburger, topped at 8102 feet, was drilling dolomite at 9098 feet to locate top of granite for geological information before plugging back and perforating for completion.

Cities Service Oil Company et al's Owens 1-B, wildcat that plugged back from water in Ellenburger at 8264 feet to complete from Crinoidal perforations at 5660-70 feet, flowed 160 barrels of 40-gravity oil, with gas-oil ratio 2560/1, on 8-hour natural test through ⅜-inch choke. Plymouth's Owens 1-A-O, east offset, was drilling at 4705 feet, with top of Clear Fork tentatively called at 3170 feet, or 90 feet low.

Ted Weiner et al's Vaughn-Richfield 1, Ellenburger prospect that passed up probable oil production in the San Andres at 1515-90 feet, was drilling at 7305 feet.

Terry County: Amerada's Hicks 1, southeast offset to its Adair field discovery, flowed 165 barrels, including 5 percent acid residue and rotary mud, on 18-hour gauge through open tubing after using 500 gallons of mud acid and 5000 gallons of regular acid through San Andres perforations at 4816-4914 feet. Amerada's Posey 1, ⅞-mile northwest outpost, cemented pipe on bottom at 4945 feet after logging adequate pay to make a producer, although structurally low, and will complete through perforations.

• North Texas

Second Prolific Ellenburger Well Added in Fargo Field

Fargo field lists second prolific Ellenburger well; Haskell County field has shallow oil discovery; Archer County wildcat to plug back for test of Strawn; Throckmorton County discovery has large initial yield.

Wilbarger County: Humble Oil & Refining Company's McCaleb 7, ¼ mile west of its recent Ellenburger-pay discovery for the Fargo field, flowed 201½ barrels of 41.9-gravity oil natural on 6-hour gauge through ¾-inch choke from Ellenburger at 6261-97 feet. It correlates 19 feet low. Amerada Petroleum Corporation's Dodson 6-B and Goodpasture 5-B, offsets to the discovery, were drilling at 6027 and 5790 feet, respectively.

Haskell County: Tom D. Humphrey's Baldwin 2, twin test to a well completing in the Strawn, swabbed 49 barrels of oil on 9-hour test after 80-quart nitro shot in Adams Branch at 2542-51 feet. This is the third and shallowest zone. Humphrey's Chapman 5 was testing oil pay at 2554-57 feet, with 5½-inch casing set at 2513 feet. Mudge Oil Company's Baldwin 3, twin to a 4278-foot Strawn sand pumper, was completing in the shallow zone, which appears to trend northwest-southeast, with insufficient gas to make flowing wells. Calstar Petroleum Company's Foree 1, 15/16-mile northwest outpost, recorded favorable structural position in entering the Palo Pinto at 3136 feet, with elevation 1518 feet.

Archer County: Panhandle Refining Company's Zotz 1, NEc Sect. 52, Block 3, Clark & Plumb Survey, wildcat failure in Bend at 5268-5379 feet, has plugged back to set pipe and try for completion in Strawn oil-saturated sand at 4058-72 feet. A small producer is anticipated.

Throckmorton County: Jas. H. Snowden et al's Bailes-Parmeter-Jones Unit 1, 2⅜ miles northwest of the McKnight field and involving a separate structure, confirmed earlier showing in flowing at rate of 100 barrels of oil per hour after drilling plugs from casing set above Bend pay at 4234-45 feet.

Young County: Cato Oil Company's Hamilton 1-A, NE NE Sect. 1393, TE&L Company Survey, offsetting shallow production, recorded a mile south extension for the Burns-Benson deep field, which covers a large area in Archer County, in flowing 109 barrels initial through 12/64-inch from Bend section at 4550-4600 feet. Intermediate acreage will be drilled as soon as pipe becomes available.

Warren Oil Corporation's Allar 1-I, north offset to its recent Marble Falls-pay discovery for the west edge of the Kendall field, enhanced the outlook for this deeper zone to attain importance in flowing 320 barrels of 42-gravity oil natural through 1-inch choke on 18-hour test from open hole at 4189-99 feet.

Indian Leases Sold

Amerada Petroleum Corporation paid top price for leases at an oil and gas lease sale of the Five Civilized Tribes in Muskogee, Okla. The company paid $114.90 per acre for the S½ SE NE of 25-1n-6w, ½ mile from production in the Cruce area of Stephens County.

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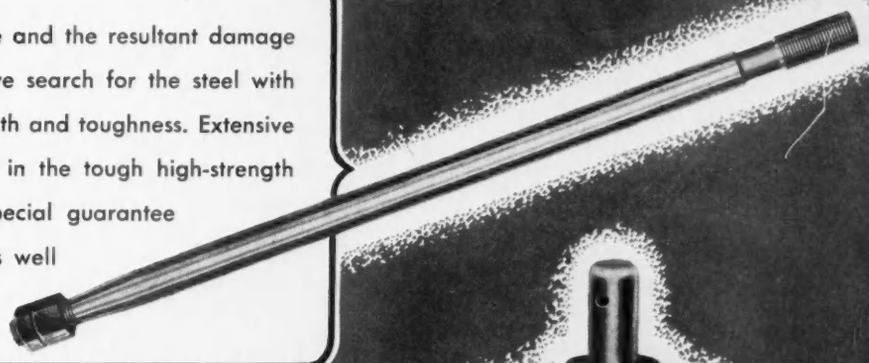

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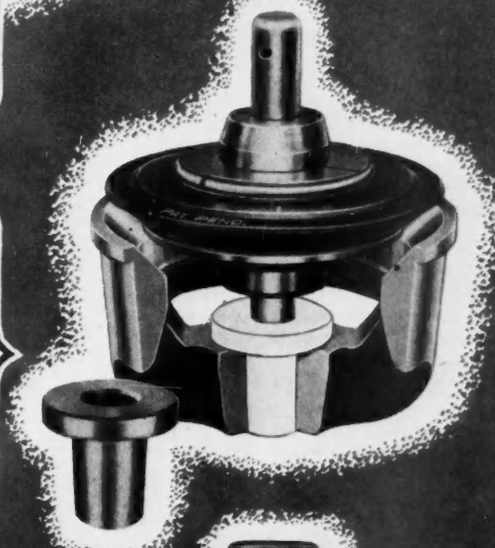

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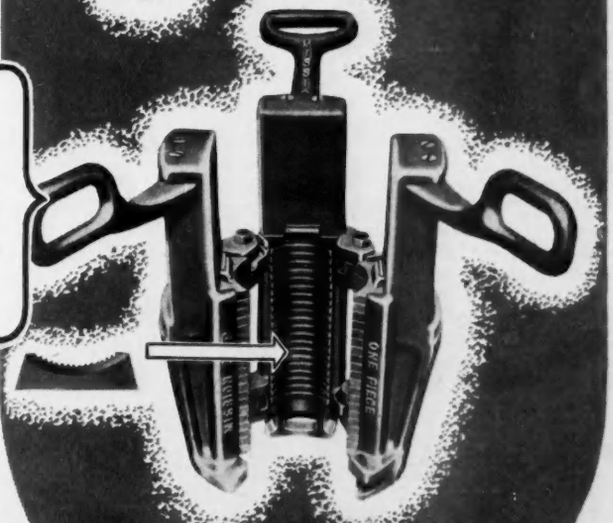

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• East Texas

Wood County Prospect Has Gas-Distillate Production

Yantis prospect in Wood County yields gas-distillate production from Rodessa; Smith County reworked wildcat shows small amount of oil from Pettit; Goldsmith field assured of gas-distillate discovery from Rodessa.

Yantis Prospect: Humble Oil & Refining Company's Rio Oil Corporation 1, Jesse Walker Survey, indicated probable commercial producer in the hill zone of the Rodessa series, was drilling at 7870 feet to explore the Travis Peak before running pipe for production test. This wildcat logged Massive Anhydrite at 7487-7648 feet, with elevation 398 feet, and flowed rotary fluid, gas and clear distillate when tester was used opposite porous zone at 7702-43 feet. Pressure built up to 1600 pounds at surface during this test, and shutin bottom hole pressure recorded 3330 pounds. No estimate was made of probable gas-distillate yield. The Paluxy was entered at 6103 feet, or 8 feet high to George Strake's 6506-foot failure situated 4700 feet northeast.

Smith County: Bobby Manziel and H. W. Snowden's Morrison 1, S. J. Lott Survey, originally abandoned at 8109 feet, was swabbing 15 to 20 barrels of oil daily after acidizing Pettit perforations in sidetracked hole at 8023-61 feet. Further acid treatments are expected to make a small pumper of this wildcat.

Navarro County: J. L. Collins & Company's Barnett-Magnolia 1, Travis Peak test for the Bazette faulted structure, continued to log nominal oil shows, with some oil appearing on pits in drilling the Pettit zone from 6150 to 6238 feet. Drill-stem test of this section yielded 220 feet of rotary fluid with nominal show of gas.

Wood County: Shell Oil Company's Goldsmith 12, Quitman field's initial deep test that encountered salt plug in sidetracked hole then plugged back from 11,283 feet, will be completed as a high-pressure gas-distillate producer from the Rodessa. Perforations at 7833-59 feet resulted in pressure on tubing and casing building up to 1100 and 1700 pounds, respecively. The well later flowed 26 barrels of distillate, including 15 percent wash water, with gas volume rated at 426,000 cubic feet daily on 7-hour test through ¼-inch choke. Acid treatment is expected to stimulate production to qualify for a commercial producer.

Amerada Petroleum Corporation and Sun Oil Company's Kennedy Unit 1, southeast outpost for the Quitman field, was abandoned at 6345 feet after testing water in the Paluxy, topped at 6236 feet.

Humble Oil & Refining Company's McKnight 1, northeast edge of the Hawkins field, was conditioning hole at 14,436 feet in shale and sand after drilling through salt encountered at 14,411 feet.

• East Texas Border

San Augustine Discovery Is Completed from Pettit

San Augustine discovery completed from Pettit; tests starting in Selby and Harrison counties.

San Augustine County: M. E. Davis' (Benedum & Trees) Pettit lime discovery, W. A. Johnson 1, Edmund Quirk Survey, was completed for initial gauge of 92.1 barrels of 42.3-gravity oil daily through 9/64-inch choke on tubing. Gas-oil ratio was 2000/1. Production is from 180 perforations at 8130-60 feet, after treatment with 1000 gallons of acid. Total depth is 8978 feet. Pettit was topped at 8129 feet. An offset is expected soon.

Selby County: L. E. Winslow's Lilly 1, W. D. George acreage in C. C. Tutt Survey, has spudded. It will be a 4500-foot wildcat. It is near a 3902-foot failure, drilled in 1938.

Humble Oil & Refining Company's Huxley field test, Fleming et al 1, John Hailey Survey, east of the discovery well, is drilling below 5361 feet in anhydrite, and checking from flat to a few feet high to the discovery, which was completed as a small gasser in the Pettit.

Harrison County: Southern Production Company was moving in to rig up at W. H. Cargill Estate, P. Dougherty Survey, 1030 feet northeast of Arkansas Fuel Company's McCauley 1, which was completed in April for a new oil pay from the Travis Peak or a long extension to the west flank oil production of Waskom field. This test will go to 6800 feet.

• South Central Texas

Wildcat in McMullen County Has Oil on Drill-Stem Test

McMullen County wildcat recovers oil on drill-stem test; Marts plugs Travis County wildcat.

McMullen County: Skinner & Eddy et al's South Texas Syndicate 1-B, wildcat 2 miles southwest of Green's Branch field, has an oil show in the Queen City sand. A drill-stem test at 2286-93 feet, using ¼-inch chokes, recovered 100 feet of oil, 2500 feet of oil-cut mud, and no water. Tester was open 1 hour and showed 840 pounds shutin pressure. Total depth is 2293 feet with 5½-inch casing set to 2286 feet. This wildcat is in E. M. Beal Survey 28, A-589.

Travis County: E. R. Marts has abandoned Van Harris 2, wildcat in the William Hines Survey. Total depth is 1966 feet with no shows encountered. The Edwards lime was topped at 1940 feet, Eagleford at 1660 feet, and Buda lime at 1678 feet.

Nomads' Whing Ding Set

The Los Angeles Chapter of Nomads' eighth annual Whing Ding will be held at the Riviera County Club July 18 with 450 Nomads and guests expected.

Western Gas-Gulf States Merge, Form New Company

Merger of Western Gas Company and Gulf States Oil Company has been announced by Paul Kayser of Houston, president of both companies. Western Gas formerly was a wholly owned subsidiary of El Paso Natural Gas Company. The new corporation will be known as Western Natural Gas Company with Kayser as president.

The merged company has extensive holdings in Texas and New Mexico and is embarking on an active campaign for the acquisition and development of additional such reserves, Kayser said.

• Southwest Texas—Lower Coast

Duval County Discovery South Of Strake Area Is Completed

New field discovery south of Strake completed; deep Willacy County wildcat still working with stuck drill pipe; Aransas County wildcat cores ahead after testing oil on drill-stem test; new pay zone discovered at South Haldeman field.

Duval County: Santa Clara Oil Company et al's J. F. Welder 1-C, wildcat 3 miles south of Strake field in J. Poitevent Survey 221, has been completed as a discovery. The well flowed 105 barrels of 25-gravity oil daily through 10/64-inch choke with tubing pressure 230 pounds, casing pressure 400 pounds, and gas-oil ratio 180/1. Total depth is 3277 feet with 5½-inch casing set to 3273 feet, completion being from open hole.

Willacy County: The Texas Company was still working with stuck drill collar in the Yturria Land and Livestock 6, deep wildcat 8 miles northeast of Raymondville. The company was preparing to set 4-inch liner in this test when trouble was encountered. Total depth is 16,006 feet with 5-inch liner set to 14,940 and 4-inch liner to be set on bottom to test a sand just above 16,000 feet. The drill collar is stuck at 15,140.

Aransas County: W. H. Hunt Trust Estate's Spencer-Crane 1, wildcat 4½ miles north of Rockport in C. O. D. Gilliland Survey, was coring ahead after recovering oil on a drill-stem test. The test was made at 7131-41 feet and, using ¼-inch chokes, developed 195 pounds working pressure and recovered 3000 feet of 43-gravity oil. Gas and condensate were previously tested at 7027-37 and 7048-63 feet.

Jim Wells County: Sunray Oil Company's C. T. Hewitt 1-C has discovered a new pay zone at South Haldeman field. From perforations at 5150-55 feet the well flowed on potential 216 barrels of 45.7-gravity oil daily on 11/64-inch choke with tubing pressure 840 pounds, casing pressure 1200 pounds, and gas-oil ratio 912/1. Total depth is 6006 feet with 5½-inch casing set to 5236 feet. This well is 1475 feet southwest of Magnolia Petroleum Company's Clark 1 discovery.

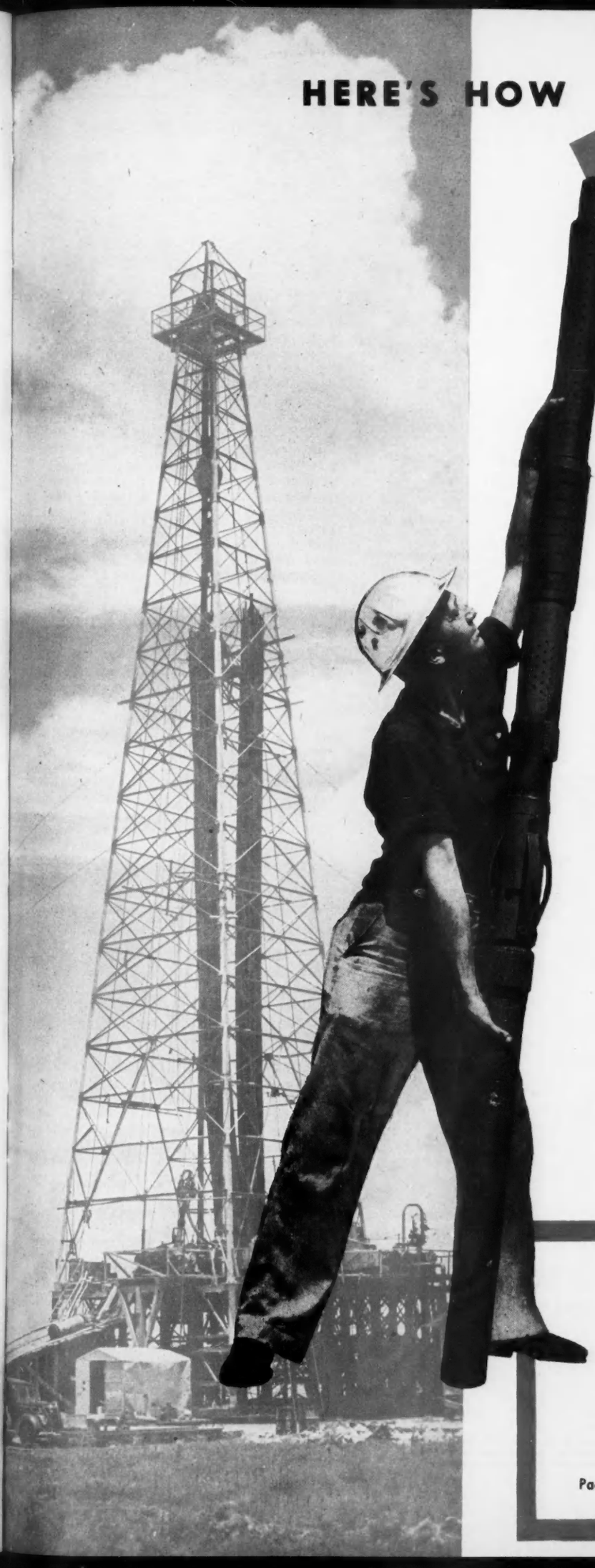
• Middle Texas Coast

Second Producer Completed In New Bloomington Field

Second producer in new Bloomington field completed; discovery well of gas field in Mission Valley area completed; Harmon field outpost prepares to make production tests.

Victoria County: Second producer for the new Bloomington field is Amerada Petroleum Corporation's Stubblefield Unit 1, on Lot 6, Block 4, Crum Addition, Bloomington townsite. On completion the well flowed 124 barrels of oil daily on 9/64-inch choke. Total depth is 6908 feet with 5½-inch casing set to 6160 feet and perforated at 4660-70 feet for completion. This well is ¼ mile northwest of the Alexander Unit 1 discovery, completed from perforations at 4904-09 feet. The Alexander 1 tested salt water from the 4600-foot sands.

Amerada Petroleum Corporation has completed Elizabeth Mueller 1 as the



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discovery well of a new gas field. Located 3 miles southeast of Mission Valley, the well flowed on potential 1,634,280 cubic feet of gas daily through ⅜-inch choke with 900 pounds working pressure. Total depth is 9916 feet with 5½-inch casing set on bottom and perforated at 2872-82 feet for completion. Several deep tests were made in the hole before perforating at the shallow depth for completion.

Jackson County: W. P. Taylor's A. A. Egg 1, ¼ mile southwest of Gulfboard's Maggie Branch 1-A at Harmon field, was preparing to make production tests. Total depth is 6860 feet with 5½-inch casing set to undisclosed depth. A drill-stem test at 6515-19 feet prior to setting casing recovered 2100 feet of 32-gravity oil with 60 pounds working pressure.

• Upper Texas Coast

Hardin County's Saratoga Field Has New Flank Pay

New flank pay sand discovered on Saratoga field's northwest flank; Sugarland dome flank test abandoned; new gas producing sand discovered in Cedar Bayou area; Glendale field confirmation test completed.

Hardin County: Falcon-Seaboard Drilling Company and Dunwoody's Sam F. Bashara 1 has opened a new flank pay sand on Saratoga field's northwest flank. On potential the well flowed 179 barrels of 32.2-gravity oil daily through 14/64-inch choke with tubing pressure 500 pounds, casing pressure 1300 pounds, and gas-oil ratio 644/1. Total depth is 7380 feet with 7-inch casing set 2 feet off bottom and perforated at 7314-24 and 7328-38 feet for completion. This producer is on a 110-acre lease in J. B. Reeves Survey, approximately 1000 feet southwest of the same operator's Annie Baker 2 dry hole.

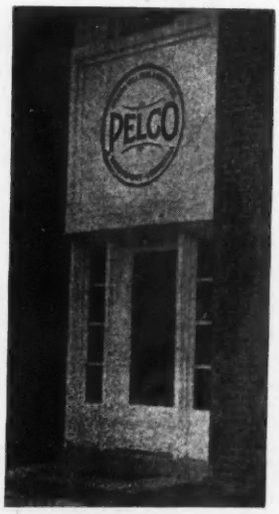
Fort Bend County: Woodley Petroleum Company & Sam F. Bashara's Sugarland Industries 1, wildcat off the north flank of Sugarland dome, has been abandoned. Total depth is 5381 feet in salt, the test topping the cap rock at 5338 feet and salt at 5372 feet. Tests were made at 4979-84 feet and at the 3600-foot level, but all failed to show commercially.

Chambers County: Kirby Petroleum Company's Fee 1 has discovered a gas producing field in the Cedar Bayou area. From perforations at 6312-16 feet the well flowed into burning pits showing gas and condensate with 2500 pounds tubing and casing pressures, flow being through ⅛-inch choke. Total depth is 8015 feet with 5½-inch casing set to 6498 feet. This test is 1 mile south of abandoned Cedar Bayou field production and is in the C. Smith Survey, Abstract 22.

Trinity County: Magnolia Petroleum Company' Bolton 3, confirmation test in the Glendale field, has been given a 24-hour test. It flowed at the rate of 2,895,000 cubic feet of gas and 28 barrels of condensate daily through ¼-inch choke, tubing pressure being 1983 pounds and casing pressure 2133 pounds. Total depth is 10,658 feet with 7-inch casing set on bottom and perforated at 10,647-657 feet for completion. This well is 5443 feet northwest of the Bolton 2 gas-condensate discovery.

Wants

We still hear too much about freedom from want. Most of it comes from well meaning people whose hearts bleed for the poor "unfortunates," but the idea stems from the isms. As Arthur H. Motley has so ably pointed out, wants have made America great. The Arab wants nothing better than a dirt floor for his kids and goats, so he lives that way. In America we want cars, refrigerators, radios and bath tubs. We need them no more than the Arab, but we are willing to work like hell to get them. As a result, only 10% of our people have incomes of $1,000 or less. Let's not have too much freedom from want. It motivates everything that is free and democratic, including the oil industry.



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• South Louisiana

Discovery in East Moss Lake Area to Get Potential Test

New field discovery west of East Moss Lake prepares for potential test; gas-condensate discovery in Vermilion Parish to make flow tests; extension test at West Tepetate testing; Gulf of Mexico wildcat drilling ahead; producer finaled at West Barataria field.

Calcasieu Parish: Sun Oil Company's Louisiana Farm & Livestock 1, discovery 2 miles west of East Moss Lake field in 7-11s-9w, is installing surface equipment for potential test. Completion is through 32 perforations at 8970-78 feet where the well cleaned through ⅛-inch choke with 950 pounds flowing pressure on tubing and 1100 pounds pressure on casing. Total depth is 10,152 feet with 7-inch casing set to 9196 feet. First test was made at 8996-98 feet where a drill-stem test using ¼ and ⅛-inch chokes recovered 4 stands of oil, 7 stands of salt water and 1 stand and a joint of sand. These perforations were squeezed and casing perforated at present completion level.

Vermilion Parish: Stanolind Oil & Gas Company is testing E. M. Watkins 1, wildcat 10 miles south of Gueydan field in 23-13s-1w. On a previous test this well developed 4300 pounds pressure from perforations at 11,310-326 feet using ⅛ and ¼-inch chokes, but the well was not allowed to flow. On pulling the tool, traces of gas and condensate were found in the mud. A heavier blowout preventer has been installed in preparation for the present test.

Jeff Davis Parish: Humble Oil & Refining Company's Thomas Waggaman 1, extension test 1¼ miles southwest of West Tepetate field, is making production tests. From perforations at 9700-97 feet, 2½-inch tubing was set to 9614 feet and the well flowed salt water and gas through ¼-inch choke. Total depth is 10,140 feet with 7-inch casing set to 9825 feet. These perforations were squeezed and an oil show up the hole will be tested.

St. Mary Parish: Magnolia Petroleum Company is drilling below 2580 feet in the State 1 (Lease 684), wildcat in the Gulf of Mexico on Lot 94. An oil show is reported to have been encountered above 2580 feet and 7-inch casing has been set to 2582 feet.

Jefferson Parish: The California Company's Rathborne Land Company 3, at West Barataria field in 2-16s-23e, has been completed as a new producer. On potential the well flowed 317 barrels of 35.9-gravity oil daily through 10/64-inch choke with 1500 pounds tubing pressure and gas-oil ratio of 685/1.

• North Louisiana

Development Intensive in Vicinity of Ora Discovery

Development in Ora discovery area under way; rank wildcat northwest of new field has good oil saturation.

Union Parish: A highly concerted development of the new Ora area has gotten under way, with most of the 11 new tests and offsets being spaced on the 10-acre pattern. The discovery well, Monzingo-Rivers Lumber Company 1,

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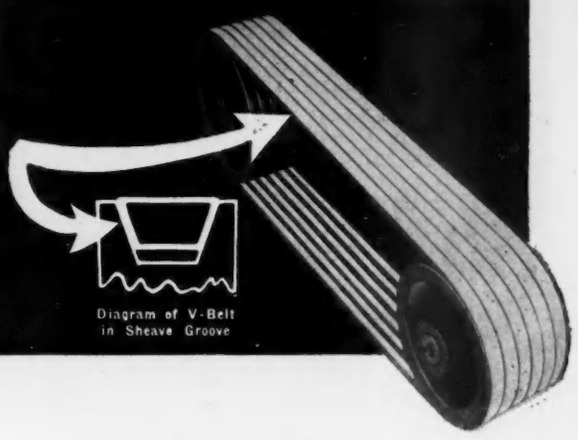

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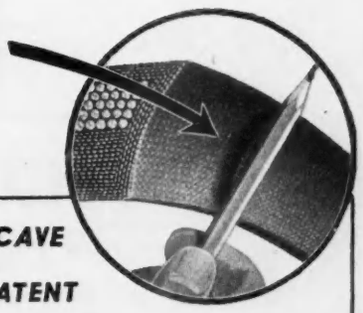

Clearly, since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt. The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the *middle* of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

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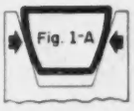

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

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NW SE NE 23-22n-1w, is still shut in awaiting removal of crude by truck. Feazel, Neely and Roberts Company's east offset to the discovery, A. C. Dykes et al 1, 24-22n-1w, perforated from 2135-39 feet and tested salt water with small show of oil, but this was believed due to water channeling up the hole and a squeeze job was made.

Shell Oil Company released tops on its core test, Frost Lumber Company 2, C SW SE 14-22n-1w, which created the big lease play throughout the county in April and May. With elevation of 155 feet, the following tops were picked: Midway 1385, Arkadelphia 1970, Nacatoch 2065, sand with possible showing of oil 2125-50, Meakin 2393, Tokio 2506, Lewisville 2725, Comanche 3080, total depth 3250 feet.

T. L. James & Company's wildcat E. H. Miller 1, 36-23n-2w, 4 miles south of Loram and northwest of the Ora field, cored saturated sand from 6314-31 feet with good stain and odor and seems likely to make commercial production from the Bodcaw sand of the Cotton Valley. It is bottomed at 6923 feet. Leasing is also very active around this test.

• Arkansas

Gas-Distillate Production Tapped in Lafayette County

Distillate pool opened in Lafayette County; 2 wildcats active in Union and St. Francis counties.

Lafayette County: McAlester Fuel Company's Cap Lee A-1, C NE SW 24-17s-24w, has opened a gas-distillate pool 7 miles south of Lewisville. On company test the well flowed 75 barrels of 56-gravity distillate and 1½ million cubic feet of gas through perforations at 9044-50 feet through ⅛-inch choke. The well is shut in waiting on official test. Total depth is 9086 feet with 5½-inch casing cemented 1 foot off bottom. Production is from the Smackover, topped at 9020 feet, which is reported to have a 19-foot saturated section.

St. Francis County: Petroleum Products Corporation's Engler Bros. 1, C SE SE SE 17-4n-1w, wildcat, is drilling at 1505 feet.

Union County: Arrow Drilling Company is drilling Union Saw Mill A-3, C NW NW SE 3-18s-12w, 4 miles west of New London field, and is now below 2630 feet.

Hempstead County: C. L. Wickliffe's wildcat Ward 1, C W½ NW SE 33-9s-23w, squeezed perforations from 719-29 feet, after recovering a flow of salt water and slight show of oil. Total depth of well is 1798 feet. Travis Peak is topped at 643 feet, Eagle Mills at 945 feet.

Louisiana Leases Lands

State lands including several tracts of offshore lands, brought the state of Louisiana $3,849,878 in bonuses at a lease sale in Baton Rouge June 10. An inland tract, 4600 acres in the Bay De Chene area, brought the highest bid. It was leased to The Texas Company for $301,-500. The highest bid on an offshore tract was $207,750, bid by The Superior Oil Company for 5000 acres in the West Cameron area.

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• Mississippi

Jones County Wildcat Yields Good Show on Drill-Stem Test

Jones County wildcat encourages on drill-stem test; Humble's Marion County test abandoned; former failure in Chickasaw County yields gas.

Jones County: Gulf Refining Company's L. L. Major 1, NE NE 29-6n-11w, rank wildcat, showed excellent commercial possibilities on a drill-stem test. Casing was perforated at 12,114-34 feet and recovery was 30 feet of gas-cut mud and 685 feet of 33.1-gravity oil. Bottomhole pressure was 1600 pounds. Subsequently, cores were taken at 12,157-67 feet and recovered gray shaly sand with good oil odor. The well has had good shows all the way down through the Eutaw and Tuscaloosa sections, but the 12,000-foot test yielded the first real definite indication of commercial production.

Marion County: Humble Oil & Refining Company's C. Tuloos 1, 12-1n-18w, has been abandoned after efforts to make a commercial producer failed. Casing was perforated at 8996-9003 feet and flowed at the rate of 1,780,000 cubic feet of gas per day plus 105 feet of condensate. Because of large salt water input perforations were squeezed and the well reperforated at 9050-52 feet and later at 9042-46 feet. Well was swabbed and recovered only 150 feet of oil against 2100 feet of salt water, whereupon it was finally abandoned at total depth of 10,996 feet.

Warren County: Amerada Petroleum Corporation's Dabney-Bonelli 1, 9-18n-2e, was preparing for a new test after Wilcox section yielded salt water. Casing was perforated at 3612-17 feet opposite a section which had cored brown oil stain. A drill-stem test recovered 3400 feet of salt water with nothing encouraging indicated.

Chickasaw County: Davidor & Davidor's H. B. Carter 1, C SW SE SW 24-12s-4e, has had shows of gas following operator's preparation to deepen. The well made a duster when it was completed some time ago by Pan-American Production Company. When the present driller bailed it out with the idea of deepening below its present depth of 2642½ feet the well began flowing gas and fresh water. Gas pressure was built up and flow continued by heads at 15-minute intervals.

Lincoln County: C. H. Osmond's Grady Jordan 1, C NW NE 29-6n-8e, which is undertaking to extend Mallalieu field production ½ mile south was setting casing after reaching 10,568 feet. The well was reported to have had 14 feet of oil sand with possibilities of making a good producer, but there is no confirmation.

Yazoo County: The Carter Oil Company's Medie Morgan 1, C SW NE 9-12n-3w, was being spudded in for a test of the Tuscaloosa below 6000 feet. The test is ½ mile south of Carter's Carl Day 1, NE NE 9-12n-3w, which was abandoned as a duster after reporting shows in the Tuscaloosa zone at 6456 feet and stain and odor at 6554-64 feet.

Alabama

Shell Oil Company's C. C. Brooks 1, NW NE 11-8n-1e, 11 miles southwest of Grove Hill, Clarke County, was running electrical log after reaching a total

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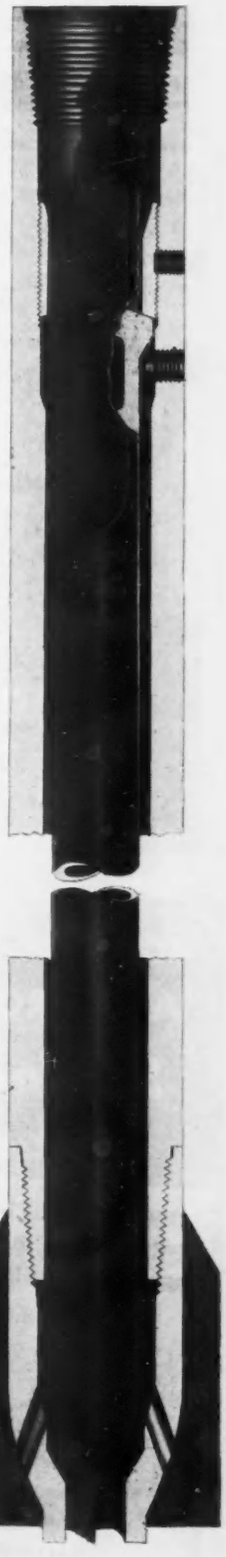

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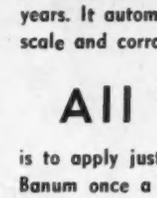

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depth of 2232 feet. No shows have been reported so far.

Marengo County: Ballio & Trotter's J. L. Bedsole 1, 18-13n-1e, wildcat, is drilling below 2200 feet. Fresh water was logged in the Eutaw from 2100-2200 feet.

Walker County: Glen D. Rose Oil & Gas Company's First National Bank of Birmingham 2, NW SE 30-12s-7w, which previously had reported good shows of gas after reaching a total depth of 3225 feet, was preparing to install new packer and make further tests in effort to establish production.

Georgia

S. J. Felsenthal's W. E. Bradley 1, in Appling County, Land Lot 522, Second Military District, is rigging up. The well should be driven to approximately 3000 feet.

Florida

Humble Oil & Refining Company's wildcat, Lee Cypress Company 3, SE SE 28-47s-29e, Collier County, finally has been abandoned after failing to establish commercial production. Casing was perforated at 10,312-26 feet and acidized, but after a good blow the hole filled up with salt water and died.

Palm Beach County: Humble's Tuscon Corporation 1, 35-43s-40e, wildcat, is drilling below 12,010 feet in lime with no shows reported in the lower levels.

Clay County: Humble's Foremost Properties 1, NE SW 4-6s-26e, is drilling below 4381 feet in hard sand. No shows are indicated.

Speakers for Rocky Mountain API Meeting Are Announced

Jake L. Hamon of Cox and Hamon, Dallas, and chairman of the general committee of The API Division of Production, will address the reactivated API Rocky Mountain District in the Mammoth Hotel, Yellowstone National Park, Wyoming, June 25, it was announced by Program Chairman James D. Anderson of The Ohio Oil Company, Casper, Wyo.

Hamon will speak on "Scope and Accomplishments of The API Division of Production." Other speakers at the one-day meeting include J. F. Cullen of Stanolind Oil & Gas Company, Casper, Wyo., who will discuss "Unit Operations." Nat A. Slagter of Lance Creek Unit, Lance Creek, Wyo., will speak on "Secondary Recovery in the Rocky Mountain Region."

• Rocky Mountain Area

Wildcat in Antelope Area Of Wyoming Is Failure

Antelope area wildcat in Wyoming is failure; Old Woman Creek anticline test makes gas from Leo; Tensleep test started between Elk Basin and Badger Basin fields; Bud Kimball structure wildcat planned; test on Mosser Dome, Montana, is pumper; deep test in Clay Basin field, Utah, is disappointment in Weber.

Wyoming

General Petroleum Corporation has abandoned its wildcat test of the seismic high in the Antelope area on the north side of the Great Divide Basin. The test was drilled to 10,776 feet in the Nugget formation and water was logged in the Frontier, Dakota, Lakota and Nugget sections. Shows of gas were encountered in cores of the Lakota, but thorough testing proved them noncommercial. The well is 45-25-G, in NE NE SW 25-27n-94w, Fremont County.

Niobrara County: The wildcat being drilled by Intermountain Petroleum on the Old Woman Creek anticline in eastern Wyoming at Government 1, NE NE NE 8-36n-62w, was reported making an estimated 3 million cubic feet of gas from the Leo sand. Leo was topped at 1373 feet and the gas is from a soft streak between 1392-94 feet. The well is now testing.

Park County: A test to Tensleep in an interesting area between the Elk Basin and Badger Basin fields is being started by an operator new to the Rocky Mountain region. Seaboard Oil Company, with Resolute Oil Company of Great Falls, Montana, is commencing the well at Northern Pacific Railroad 53-33, NW SW NE 33-58n-100w, on the Sand Coulee structure, 6 miles southwest of the Elk Basin field. Elk Basin is the largest producing field in Wyoming, and now makes approximately 16,000 barrels of oil daily from 120 wells in the Tensleep.

Washakie County: The Texas Company has completed unitization of the Bud Kimball structure on the southeast side of the Big Horn Basin and will start drilling on a wildcat, Unit 1, NW SW SW 11-45n-82w. The test will be drilled to Madison on the 2000-acre block.

Water has been logged in the Tensleep on the north extension test being drilled by Mackinnie Oil and Drilling Company of Denver on the Hidden Dome structure. The well is Broome 1, SW SW SW 30-48n-90w, a mile northwest of the Tensleep discovery drilled by The Ohio Oil Company early this year. Tensleep was topped at 5170 feet and the well was coring at 5210 feet. The test will be plugged back to the Embar, topped at 4880 feet, where casing will be run for a test of saturation. The Hidden Dome field has produced gas and a small amount of oil from the Frontier for years, but had not been tested in the Tensleep until 1946. Ohio now has 2 wells drilling to the Tensleep between the discovery and the Mackinnie test.

Montana

Amick Drilling Company's second test of Mosser Dome, southwest of Billings near Laurel, Yellowstone County, was reported pumping at the rate of 120 barrels of 22-gravity oil daily from the shallow Mosser sand at 1011 feet, total depth. The first test drilled by Amick on this structure found a small amount of oil with considerable water and is still testing before completion.

Colorado

At Rattlesnake, southeast of Pueblo, Las Animas County, Skelly Oil Company's Pressey 1, NW NW NW 24-26s-63w, has been abandoned in granite at 1338 feet, total depth. The well found granite much higher than expected, and Skelly has not released completion data below Permian at 610 feet.

Utah

Mountain Fuel Supply Company's deep test of the Clay Basin field in Daggett County along the Utah-Wyoming line, may be a disappointment in the Weber formation. The test was reported coring below 9169 feet in the Weber, which was reported hard and tight. The operator

has reported no saturation at the present depth, and the well has been carried as a tight hole until completion. Clay Basin is one of the largest structures in southwestern Wyoming and has produced gas from the Morrison sand since discovery in 1932.

Carbon County: The first well to go below 10,000 feet in Utah is being drilled by Pacific Western Oil Company at Gordon Creek, in the central part of the state. The well is Unit 1, C SE NE 24-14s-7e, and is below 10,048 feet in Moenkopi with Coconino as the objective within 1000 feet.

Bailey Joins Husky

A. G. "Alec" Bailey, chairman of the Alberta Petroleum & Natural Gas Conservation Board, has resigned to accept a post with Husky Refining Company of Wyoming. Stationed at Calgary, Alberta, he will direct Husky's leasing and development operations in Alberta and Saskatchewan. D. P. Goodall has been appointed acting chairman of the Alberta board.

• Illinois Basin

Clay, Clinton and Edwards In Illinois Get Discoveries

Discoveries noted for Clay, Clinton and Edwards counties in Illinois; Hoosier wildcat flows.

Illinois

Robinson and Puckett's Colclasure 1, NE NW NE 11-4n-5e, Clay County, 3 miles south of the Iola pool, is opening a new area in McClosky lime at 2580-85 feet. During a drill-stem test the well yielded gas in 12 minutes and 1860 feet of oil in 1 hour.

Clinton County: T. M. Conray's Keister 1, SW SW NW 27-2n-1w, is giving the Shattuc pool a new horizon. Pipe is set to Paint Creek sand at 1425-40 feet after a drill-stem test showed 215 feet of oil and 100 feet of oil-cut mud. Cypress is the original pay in the field 2 miles northwest of Centralia.

Edwards County: William Bell's Fieber 1, NE SE NE 31-2s-14w, 1½ miles east of the Albion pool, was preparing to test Rosiclare sand at 3125-35 feet and McClosky lime at 3170-80 feet after a drill-stem test made 480 feet of oil-cut mud.

Hamilton County: F. J. Fleming's Mason 1, SE SE SE 10-4s-7e, ½ mile northwest of the Bungay pool, swabbed 240 barrels of oil in 24 hours from Aux Vases sand while cleaning out after a 90-quart shot at 3260-70 feet.

Wabash County: R. B. Martin's Higgins 1, NW NW NW 36-2n-14w, 2 miles northwest of the Lancaster Central pool, pumped and flowed 200 barrels of oil in 12 hours after 1500 gallons of acid in McClosky lime at 2890-2905 feet. Operator is testing.

Indiana

Ralph Halbert's Ayershire-Collier 1, SE SW 30-2s-7w, Pike County, 3 miles southeast of the Columbia pool, flowed 80 barrels of oil natural from McClosky lime in 3 hours and continued testing. Pay was found during a drill-stem test which showed gas in 6 minutes and a flow of oil in 14 minutes.

• Michigan

Newaygo County Extensioner Makes Good Showing on Test

Newaygo County extensioner encourages on drill-stem test; Ionia County gets first wildcat start of year.

Newaygo County: Number of active rigs in the Kimball Lake field, where completion depth in Traverse limestone is only 2400 feet, may double as result of Scott Drilling Company's Mitchel 1, NE NW NW 24-12n-13w, 1½ miles southeast extension well. The outpost was still incomplete on last reports but is showed 2000 feet of oil in 67 minutes on drill-stem test at 2341-55 feet. Scott's location is within the limits of Newaygo village and consolidation of lots to make up 40-acre drilling units already is in progress. Sun Oil Company, discoverer of the original pool, controls the bulk of the acreage between the field and the new test.

Ionia County: T. F. Caldwell was moving in rig at McKenna 1, SW NW SE 4-8n-5w, first wildcat start for the county this year. No commercial production has been developed in the county but a number of tests have carried shows.

Spacing Hearing Set

Skelly Oil Company has petitioned the Oklahoma Corporation Commission to amend or revoke its original well-spacing order covering the Witcher gas field of central Oklahoma County. Hearing will be held in Oklahoma City June 27. The original order was issued upon application of Peppers Refining Company et al, following discovery of the field early in the year. Since that time two additional wells have been completed, another well is starting and one test is shut down.

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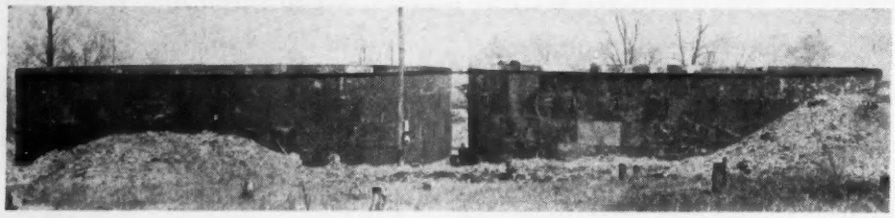

The two wrought iron storage tanks were purchased by Dow Chemical Company, dismantled and shipped to Marysville, Mich., to be used in the construction of a new all-welded tank. The tanks have served for more than 50 years in the Findlay fields of The Ohio Oil Company, and before that were used in Pennsylvania by the Buckeye Pipe Line Company. They are thought to have been of seven-ring construction, 35,000-barrel capacity, originally.

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(Fig. D380)
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• Ohio

Oil Producer Brought in from Clinton Sand in Perry County

Good oil well noted north of Sego; Somerset extended north; Woodsfield getting a play; third completion made at Gilmore; Ohio tests Trenton.

Perry County: B. G. Bartley et al moved ½ mile northwest of their Ethel Hoover 1 and completed a good producer on the south end of the Elmer A. Moore tract, SW NW 22, Madison township. The Clinton sand was logged at 3270-311 feet with 150,000 cubic feet of gas and 15 barrels of oil natural. After a 60-quart shot, the well made 110 barrels in 24 hours. B. G. Bartley et al have offset the Hoover well to the east on the Francis Love tract.

A ¼-mile north extension to the Somerset oil pool was completed by B. G. Davis et al on Frank Dittoe SE SE 3, Reading township. Clinton at 3031-66 feet, which had only a small showing of oil natural, flowed 40 barrels the first day after shot.

Monroe County: The new gas and oil pool southeast of Woodsfield in Center township is getting a big play. Twelve machines are now running in the pool, which is producing oil and gas from the Keener sand at 1600 feet, but the best wells are from the Berea sand at 2000 feet. Drilling is scattered over an area of about 3 square miles with the operators reaching out northeast and southwest.

Tuscarawas County: The Petroleum Drilling Corporation has drilled in its third well at Gilmore on the Paul M. Morrison Tract, Lot 11, Washington township. First Berea at 1287-1323 feet had 2 small gas pays and the second sand at 1325-29 feet paid all through. After blowing open for 18 hours the gauge was 370,000 cubic feet.

Logan County: The Ohio Oil Company's deep test on John Harrod, McArthur township is drilling in the Trenton limestone.

• California

Sunray Has Important Strike In Santa Barbara County

Showings in 2 Los Angeles wildcats; Sunray has discovery in Santa Barbara County; tidelands test blows out again; well in old Kern County field flows 1900 barrels; gas test to be drilled in Yolo County.

Los Angeles County: Interesting showings have been obtained in 2 Los Angeles Basin wildcats. In the Athens area Shell Oil Company's Union Poindexter 1, 12-3s-14w, has cored oil sand between 8800-8900 feet and coring continued below the latter depth. The well is off the northwest end of the Athens field and is being drilled on property owned by Union Oil Company. The latter company has only a royalty interest in the project.

In the Long Beach field, Shell's outpost, Dolley 2, has had encouraging indications. Present depth is 10,510 feet. Showing previously have been obtained below 10,000 feet but the kick was lacking to make a flowing well. Attempts to obtain flowing wells at great depth in

the Long Beach field have not been successful.

Seaboard Oil Company's important schist test in the Lawndale area, 17-3s-14w, is drilling below 4000 feet, possibly 200 feet short of its objective.

The first well to be drilled with cable tools in Los Angeles County in several years will be J. Harold Bauer's Coyote 2 wildcat, for which location has been made about ½ mile northeast of the Brea Olinda field.

Santa Barbara County: Sunray Oil Corporation has made an important oil discovery 1 mile southeast of the Orcutt field in 4-8n-33w. Its Los Flores 1 wildcat was completed flowing 480 barrels of 33-gravity clean oil through ¼-inch choke from perforated interval 4805-30 feet. Oil is from a Miocene sand not previously known in this area, the principal production in the Orcutt field to the northwest being from the chert. Operator had good showings in the chert and believes the well is also good for about 40 barrels on the pump from that zone. Location is on the Los Flores Ranch where the company has 1470 acres under lease and also a larger block adjoining to the west on the Careaga Ranch. This is Sunray's first wildcat in California. The play was worked up by W. W. Porter II of Los Angeles.

In the Zaza area, Tide Water Associated Oil Company is building derrick for Luton 71, a wildcat ¾ mile northwest of the nearest production in 32-8n-31w.

Honolulu Oil Corporation's tidelands test, State 309-1, near Coal Oil Point, blew out again and the well has been plugged back for redrilling from 700 feet.

Kern County: General Petroleum Corporation's Cooney 65 in the Race Track Hill field, 34-29s-29e, is one of the best completions in this area in some time. On a formation test the well flowed 1344 barrels of 41-gravity clean oil and 1,457,000 cubic feet of gas from 4800 feet. Present production is 400 barrels through an 18/64-inch choke.

A second good producer is being completed by General Petroleum in the Midway-Sunset field. Pacific 4 in 32-12n-23w, flowed 1900 barrels of clean 28-gravity oil through a 24/64-inch choke on a recent test.

Pacific Western Oil Corporation will not abandon its National Royalties 1 in 5-26s-22e, former world's deepest well, without exhausting every possibility of making a producer. The operator is now engaged in a redrill job and has reached 9700 feet. Old depth is 16,668 feet.

Continental Oil Company is going back into its K.C.L. 1 wildcat in the San Amigdio area, 11-11n-22w. The well will be deepened from 10,424 feet.

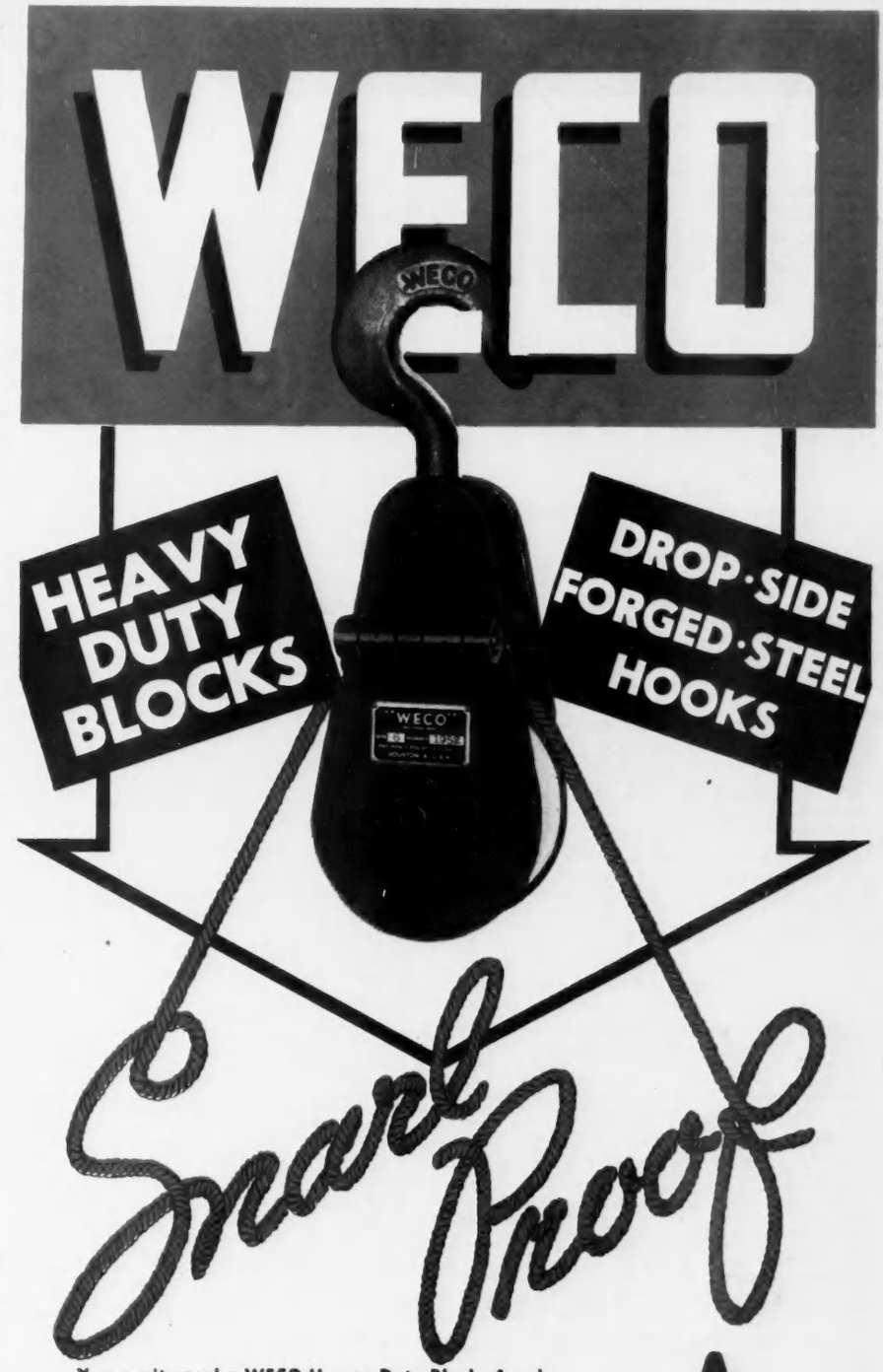
Yolo County: A new test for natural gas will be drilled by Shell in the Meridian area, where location has been made for Meridian 1-1 in 5-9n-1e. This is about 3 miles north of the Fairfields Knolls gas field.

Oregon

The Texas Company has abandoned C. & W. 1 near the town of Mist in northwest Oregon. On tests of 3 intervals between 7800-8000 feet, recovery was all water. Total depth is 8500 feet.

Washington

Standard Oil Company of California's Alderwood 1 wildcat near Everett is drilling below 7300 feet.



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EXPLORATORY FAILURES

CALIFORNIA WILDCATS

Los Angeles County: Premier Pet. Corp.'s Carla 1, 8-2s-11w, Montebello area, abnd 6-9-47 at 7000.

Kern County: Barnsdall's S.P. 1, 25-28s-28e, Sharktooth area, Oicese 2280, Pyramid Hills 2540, Vedder 2628, abnd 6-8-47 at 2628.

Caliente Oil Co.'s Cohn Estate 1, 12-30s-29e, Edison area, abnd 6-11-47 at 3471.

Honolulu Oil Corp.'s Honolulu-Wilshire-Layman 2, 18-28s-20e, McDonald Anticline area, abnd 6-7-47 at 2090.

Independent Exploration Co.'s Anderson 1, 29-28s-20e, Carneros Creek area, abnd 6-6-47 at 2636.

Shell's Guth McCaleb Community 1, 12-26s-26e, McFarland area, abnd 6-9-47 at 5280.

Independent Exploration's Bowles 66-17, 17-29s-21e, Cymric area, Basal Etchegoin 1990, Miocene 2032, abnd 6-7-47 at 2237.

FLORIDA WILDCAT

Collier County: Humble's Lee Cypress 3, se se 28-47s-29e, abnd 6-12-47 at 11,493.

ILLINOIS WILDCATS

Clinton County: S. N. Levine's Koch 1, sw 4-1n-3w, abnd 835.

Gallatin County: Ashland O&R Co. et al's Friedls 1, se ne sw 12-8s-8e, abnd 3003.

Montgomery County: Joe Reznik's Monke 1, ne ne se 4-7n-5w, abnd 2600.

Wayne County: Carl Buerkel et al's Borah 1, ne nw se 9-1s-9e, abnd 3466.

Carter's Churchwell 1, se se sw 16-3s-8e, abnd 3556.

INDIANA WILDCAT

Spencer County: Hageman Properties' Kratz 1, sw sw se 30-9s-6w, abnd 1835.

KENTUCKY WILDCAT

Henderson County: Ashland O&R Co. et al's Sowards 1, nw ne se 7-P-21, abnd 2721.

SOUTH LOUISIANA WILDCATS

Jefferson Parish: Calif. Co.'s Lester Pailet et al 6, 1-16s-22e, abnd 6-12-47 at 10,500.

St. Mary Parish: Humble's State-Atchafalaya Bay Lse 734-1, s 00° 20 mins 22 sec 2 34,033 fr USCGS "Belle Isle 2," abnd 6-11-47 at 11,728.

Vermilion Parish: Sohio's Placide Trahan 1, nwc 33-11s-1e, sw side Gueydan Prospect, abnd 6-10-47 at 11,900.

MISSISSIPPI WILDCATS

Copiah County: I. P. LaRue's Harris 1, c se sw 22-1n-3w, Wilcox 3537, Tuscaloosa 8954, Massive sd 10,012, abnd 6-9-47 at 10,174.

Jasper County: P. G. Lake's M. C. Moulds 1, c sw nw 27-4n-13e, Eutaw 3779, Tuscaloosa 4195, Massive sd 5295, abnd 6-11-47 at 5472.

Madison County: Gulf's J. R. Fancher 2, c sw sw nw 25-10n-4e, Wilcox 1182, Eutaw 5011, abnd 6-5-47 at 5200.

Marion County: Humble's C. Tullos 1, 12-1n-18w, Wilcox 3138, Tuscaloosa 7950, Massive sd 9178, abnd 6-12-47 at 10,996.

Washington County: C. H. Murphy-Sun's Land Bank 1, 19-16n-8w, Wilcox 1803, Chalk 3700, L. Cret. 4920, abnd 6-10-47 at 5021.

Newton County: J. J. Broadus' Newton County Bk. 1, Chalk 2732, Eutaw 3698, Tuscaloosa 4090, Massive sd 5193, abnd 6-11-47 at 5510.

OKLAHOMA WILDCATS

Cotton County: T. H. McCasland's Mosley 1-B, se nw se 20-1s-9w, abnd 3360.

G. T. Lackey's Wright 1, nw ne ne 28-2s-13w, abnd 2100.

Griffin Oil Co. et al's Keeter 1, sw sw ne 27-4s-10w, abnd 1809.

C. & N. Drlg. Co.'s Rainwater 1, nw nw se 35-4s-11w, abnd 2107.

Garvin County: Carter et al's Gibson 1, ne ne sw 6-2n-2e, abnd 3505.

Magnolia's Walston 1, c sw nw 29-2n-1w, abnd 7456.

Oil & Gas Industries' Andrews 1, se se se 24-4n-2e, abnd 3247.

Noble County: Midco Oil Corp.'s McCrary 1, se se ne 30-23n-1e, abnd 4938.

Oklahoma County: Magnolia's Kratky-Sefcik Unit 1, c ne ne 15-12n-4w, abnd 7195.

Pawnee County: Porter Oil Co.'s Perry 1, nw nw ne 21-23n-4e, abnd 3828.

Payne County: Midland Cooperative Oil Co.'s Lovell 1, se sw nw 35-18n-3e, abnd 4432.

Pontotoc County: Tuesday Oil Co.'s Pratt 2, nw ne ne 6-4n-4e, abnd 2202.

W. H. Pine's McCauley 1, ne ne sw 4-3n-4e, abnd 2073.

M. J. Rainhard's Fee 1-A, sw sw nw 36-3n-4e, abnd 1998.

Stephens County: Lundy & Shear's Johnson 1, sw se se 1-1s-9w, abnd 2409.

Vickers Pet. Co.'s Walker-Voorhees 1, ne 2-2n-4w, abnd 11,009.

Tillman County: T. P. Langford et al's Young 1, ne ne ne 26-1n-19w, abnd 1764.

WEST TEXAS WILDCATS

Crosby County: Humble's Montgomery 1, c se se sect 21, blk 2, Brooks & Burleson sur, elev 3108, Wolfcamp 5240, Pennsylvanian 8394, Mississippian 9140, granite wash 9640, granite 9685, abnd 6-14-47 at 9707.

Ector County: Cities Service's TXL 1-H, c nw nw T&P Ry. 1, blk 45, T-2-S, elev 3223, Glorietta 5410, Tubb 5760, abnd 6-3-47 at 6523.

Howard County: Norman & Roche-Cosden Pet. Corp.'s Reed 1, sw sw sw T&P Ry. 19, blk 30, T-1-N, elev 2460, 1st lime 2300, Clear Fork 3260, abnd 6-6-47 at 4175.

Midland County: Humble's Floyd 1, c nw ne T&P Ry. 16, blk 37, T-3-S, elev 2612 ft, San Andres 4720, Strawn 10,198, Devonian 11,196, abnd 6-16-47 at 11,322.

Scurry County: Ohio Oil Co.'s Neal 1-C, 660 out nwc R. N. Miller sur 1, elev 2164, San Andres 910, Glorietta 1540, Valera 3220, Dothan 4280, detrital 7220, Elfenburger 7229, abnd 6-11-47 at 7339.

WEST TEXAS OUTPOST

Hockley County — Levelland: Amerada's Shofner-Tidal 1, 660 out sec Lbr 6, Lge 734, State Capitol Lands, 1⅞ mi ne of prod, elev 3537, anhydrite 2210, 1st lime 3600, San Andres 3920, abnd 6-10-47 at 5000.

NORTH TEXAS WILDCATS

Cooke County: Davidor & Davidor's Trew 1, 1460 snl 1950 ewl Thos. Carson sur, Ellenburger 1950, abnd 6-3-47 at 1990.

W. O. Russell et al's Burk 1, 150 out sec of 80-ac tr, G. Steele & Thos. Toby sur, elev 1013, Ellenburger detrital 1832, Ellenburger dolomite 2016, abnd 6-3-47 at 2044.

Jack County: J. H. Johnson et al's Wright 1, 2400 snl 240 wel Z. S. Brooks sur, abnd 5-26-47 at 830.

Wichita County: J. R. Frankel et al's Wright 2, 330 snl 990 wel lot 11, Red Rover Valley Land sbdn of C. T. Rv. 1, Canyon 1759, Ellenburger 2245, abnd 6-8-47 at 2527.

NORTH CENTRAL TEXAS WILDCATS

Brown County: F. R. Jackson et al's Ball 2, 330 out nec sect 69, Brown CSL, abnd 6-9-47 at 2003.

Callahan County: Standard of Texas' Womack 1, 330 nsl 2640 ewl Geo. Eubanks sur 185, elev 1673, Mississippi 3743, Ellenburger 3778, abnd 6-2-47 at 3836.

Coleman County: Woodley Pet. Co.'s Young 1, 3163 nsl 467 wel J. J. Mackall sur 196, abnd 6-10-47 at 2982.

Eastland County: Capital Co.'s Allen 1, 7125 ewl 5250 fr m/s/nl of John Foster sur 121, abnd 6-2-47 at 3300.

Jones County: Frank Wood et al's Connally 1, 330 out nec lot 4, blk 5, Mary Lawson sur, elev 1596, jkd and abnd 4-30-47 at 1850.

Owenwood Pool No. 3's Koch 1, nw nw sw HT&B Rv. 28, elev 1574, abnd 6-3-47 at 2079.

Taylor County: Senate Oil Co.-R. B. George's Seymore 1, 330 ewl 1650 snl sbdn 4, Burr & Caswell sur blk 4, elev 2050, reef 3198, abnd 6-2-47 at 3295.

EAST CENTRAL TEXAS WILDCATS

Fannin County: McCurdy Bros. et al's Bible 1, 330 ewl 3736 nsl of 381-ac tr, 1900 wel 3600 snl Jos. Jeffries sur, Woodbine 910-1137, Paleozics 2100, abnd 6-7-47 at 2220.

Kaufman County: J. C. Moore et al's Stanfield 1, 1925 snl 2850 wel Wesley Boles sur, elev 427, Woodbine 2080, abnd 6-9-47 at 2600.

SOUTH CENTRAL TEXAS WILDCATS

Bastrop County: R. C. Clark's Bessie Richardson Lytton 1, 1780 fr swl 1520 fr sel n 320-ac lse, 1500 nw of sel J. A. Navarro sur, Austin chalk 2100, abnd 5-20-47 at 2122.

Travis County: E. R. Marts' Van Harris 2, 1350 fr nwl 1000 fr nel 335-ac lse, William Hines sur, Edwards lime 1940, abnd 6-3-47 at 1954.

SOUTHWEST TEXAS-LOWER COAST WILDCATS

Bee County: Earl Rowe et al's Genevieve Carlisle 1, 1700 fr wl 15,000 fr nl Felix Hart sur, abnd 6-5-47 at 5904.

Duval County: Atlantic's J. R. Foster 1, 1980 fr n&wl J. R. Foster sur 270, abnd 6-8-47 at 9349.

Bridewell Oil Co.-Chapman Oil of Tex.-H. L. Wadsworth's R. P. Garcia et al 1, 3000 fr wl 8000 fr nl at ra San Diego de Arriba Gr, abnd 6-3-47 at 5056.

Hidalgo County: J. O. Clark, Jr's Bemis L. Daskam et al 1, 467 fr wl 712½ fr n&sl lot 26, Porc 45, B. H. King sbdn, abnd 6-1-47 at 5105.

San Patricio County: Humphries & Hotchkin's A. N. Smith 1, 930 fr sl 2200 fr el T. T. Williamson sur, abnd 6-7-47 at 6502.

A. O. Morgan-J. C. Wynne's B. H. Owens 1, 467 fr s&wl 108.02-ac lse, and blk 13, Welder & Coleman-Fulton sbdn, G. Morris sur, abnd 6-6-47 at 7016.

Starr County: Starr Oil Co.'s Domingo L. Garza 1, 3650 fr sl 2460 fr wl sh 65, Porc 80, 1 mi nw Edgerton prod, abnd 6-2-47 at 4259.

Humble's E. G. Gonzales 1, 467 fr n&el TTRR sur 373, abnd 6-10-47 at 5514.

Zapata County: Government Wells Oil Co.'s Verginia Garcia 1, 495 fr swl 2647 fr nwl 645.7-ac lse, Corralitos sbdn, J. V. Borregoo Gr, abnd 6-3-47 at 936.

MIDDLE TEXAS COAST WILDCATS

Gonzales County: Humble's Allie Barnett 1, 2640 fr nwl 5000 fr swl D. B. Dillard sur, abnd in hard lime 6-10-47 at 8686.

Refugio County: Arnold O. Morgan's Katherine Schoeder 1, 330 fr n&el 160-ac blk, ne¼ sect 47, Johnson & Pugh sbdn, T. Y. Antonio Galan Gr, abnd 6-4-47 at 7014.

MIDDLE TEXAS COAST OUTPOST

Jackson County — LaSalle: Sterling O&R Co.'s August Bosak 1, 1500 sw of nel of Valentin Garcia Gr, ½ mi ne of southwest outpost well, abnd 6-2-47 at 5498.

UPPER TEXAS COAST WILDCATS

Liberty County: Humble's Cora E. Wimer et al 1, 624 fr n&sl 660 fr el 120.9-ac lse, J. Knight Sur, 3 mi n Hardin prod, abnd 6-9-47 at 12,003.

Orange County: J. W. Frazier et al's Miller-Vidor Lbr. Co. 1, 330 e of el McGuire Chesson sur 330 n of nly/nl J. Armstrong sur, 140-ac lse in M. J. Brake sur, abnd 6-10-47 at 8720.

Houston Oil Co. of Texas' Houston Oil Co. of Tex.-American Republics Corp. 1, 1780 s of nly/nl 660 w of wly/el I&GN sur 12, abnd 6-5-47 at 8607.

San Jacinto County: Salt Dome Oil Corp. et al's E. K. Sowash 1, 14,360 fr el 5300 fr sl J. M. de la Garza sur, abnd in Cockfield 5-21-47 at 4710.

Walker County: H. C. Bishop et al's G. W. Beardsley Est. 1, 660 fr wl&swly/1 195-ac lse, L. M. Collard sur, abnd 6-7-47 at 5003.

WYOMING WILDCATS

Big Horn County: Kirk Oil's Prescott 1 (OWDD) se se se 9-55n-96w, South Byron, otd, 6927, Tensleep 6841, Madison 7030, abnd 6-12-47 at 7219.

Fremont County: General Pet.'s 45-25-Gov't., ne ne sw 25-27n-94w, Muddy 9895, Dakota 10,050, Lakota 10,096, Nugget 10,630, abnd 6-7-47 at 10,776.

Bacon Reelected Chairman of Corrosion Research Group

T. S. Bacon, chief engineer, Lone Star Producing Company, Dallas, was reelected chairman and M. E. Holmberg, Phillips Petroleum Company, Bartlesville, was elected vice chairman at a Dallas meeting of the Corrosion Research Project Committee of the Natural Gasoline Association of America.

Sub-groups appointed were as follows: Steering committee, T. S. Bacon, chairman; M. E. Holmberg, vice-chairman; C. F. Bedford, Stanolind Oil & Gas Company, Houston; J. M. Dillon, Jr., Shell Oil Company, Houston; and W. H. Justice, Tide Water Associated Oil Company, Houston.

Chemical advisory committee, E. C. Greco, United Gas Pipe Line Company, Shreveport, chairman; Dr. W. A. Bruce, The Carter Oil Company, Tulsa; C. K. Eilerts, U. S. Bureau of Mines, Bartlesville; Paul Menaul, Stanolind Oil & Gas Company, Tulsa; and D. A. Shock, University of Texas, Austin.

Economics committee, W. H. Stewart, Sun Oil Company, Beaumont, chairman; F. A. Hunter, J. S. Abercrombie, Houston; and T. S. Zajac, Shell Oil Co., Houston. The latter committee is a new group which has been assigned the study of the relative cost of corrosion inhibition by chemical injection in wells as compared with the use of alloy fittings and pipe.

Formed three years ago for the purpose of determining the causes and possible cures for the destructive corrosion encountered in high pressure gas-condensate wells, the committee has made constructive progress with the many problems involved.

The OIL WEEKLY'S TRADING POST

CLASSIFIED ADS — SERVICES - PERSONNEL USED EQUIPMENT

Rates: Regular classified (undisplayed) set in this size type: 7 cents per word for first insertion and 5 cents per word for each succeeding insertion for same copy. Displayed advertisements, set in suitably larger type with ruled border, $5 per inch for first insertion and $4 per inch for succeeding insertions same copy. **All classified ads payable in advance.** Send copy and checks to: Trading Post Section, The Oil Weekly, P. O. Box 2608, Houston, Texas.

FOR SALE

■ FOR SALE—Rotary waterwell rig, capable of 800 to 1000 feet. Now in operation. A. D. Powell, 217 N. Cedar, Phone 361-J Luling, Texas.

Calco's—Armco—Steel—Portable—Pipe Rainmaker

IRRIGATION SYSTEMS

For Crops, Orchards, Pasture & Truck Farming
Shipment within 30 days.

Call or write,

C. E. PLOTT (IRRIGATION)
513 Petroleum Bldg., Chickasha, Okla.

SHOT HOLE DRILLS LARGE and SMALL

All are truck mounted, rotary, chain pull down, smallest pump size is 4 x 6. Condition of some is excellent, others are in need of repair. Price F. O. B. Dallas is from $3,000 to $8,000 with truck.

For details write

8806 Lemmon Avenue, Dallas, Texas

FOR SALE

1—Allis-Chalmers Generator, 350 Volts, 715 Amps, 1200 RPM, Serial #132379.

1—Allis-Chalmers Type EB120 D. C. Exciter, Shunt Wound, 15-KW, 120 Amps, 125 Volts, 800 to 1200 RPM, Serial #3196CK-120DEB-1-1.

1—Allis-Chalmers 300 HP, 350 Volts, 1000 RPM, 699 1 hour or 520 Cont. Svc. Drawworks Motor Serial #132452.

1—Allis-Chalmers Type EM-2 Switchboard Complete (Ser. #3X5334) with Cutler-Hammer Control (Ser. #B105711) with all Cables and (1) 1¼ HP DC Compound wound Blower Motor, 10 Amps, 125 Volts, 1800 RPM-Ser. #9076MK-51DE-1.

$15,000

This equipment can be seen at the Makin Drilling Company yard at Eunice. Write Box 131, or phone 131, Hobbs, New Mexico.

FOR SALE

60 Penny Common Nails 100,000 lbs. (100 lb. kegs).

5½ x 9/16 Standard Railroad Spikes 310,000 lbs. (200 lb. kegs).

PHONE, WIRE, WRITE

GLAZER STEEL CORPORATION

Knoxville, Tenn. **Phone 4-8601**

FOR SALE

FOR SALE

New 36-L Bucyrus-Erie spudder with casing strut, crane, extra turnbuckles, guy lines, etc. $12,000.00 cash. Joe Claypool, St. Elmo, Illinois.

■ Lumber for Sale 3x6 and wider 10 to 16 rough oak $58.00. E. J. Galennie Lumber, Box 1074, Shreveport, Louisiana.

FOR SALE—One 94-foot 415,000 pound capacity or one 98-foot 450,000 pound capacity Lee C. Moore Cantilever Derrick with substructure. One Wilson Mogul Double Drum Unit equipped with Cable Tool Drilling attachment. Powered with DHK Waukesha engine. Phone 3200 or write P. O. Box 128, Overton, Texas.

FOR SALE LIGHT SPARK-PLUG DRILLING RIG now drilling at 3000 feet at South Edgerly, La. Inspect while in operation. Call Fairfax 7867 or write 2117 Second National Bank Bldg., Houston, Texas.

For sale: Two secondhand Acme 125 h.p. 200-250 working pressure boilers, in good condition, complete with boiler pumps and Fairbanks-Morse 4 x 6 unit. Viking Oil Company, 1620 Alamo National Building, San Antonio, Texas.

SITUATIONS WANTED

■ Landman & Titleman desires change. Age 27. 7 years experience in South and Southwest. Now with major company. Address: Box 65, c/o The Oil Weekly, Houston, Texas.

LEASES, DRILLING, ACREAGE, ETC.

■ Why Pay Rentals? Have your acreage carefully checked on reasonable terms. Address: Box 51, c/o The Oil Weekly, Houston, Texas.

■ SEE A. L. BOWLES, ADA, OKLAHOMA, FOR SHALLOW DRILLING DEALS IN OKLAHOMA.

I offer at $5.00 per acre subject to prior sale, 10 year lease dated 1/20/1947, fifty cents rental, 320 acres to as much as 960 acres out of sections 17, 18, and 32, block "X," TPRy. Co. Survey, Nolan County, Texas. This acreage adjoins and is surrounded by major company blocks. W. J. GRISHAM, City National Bldg., Wichita Falls, Texas.

WANTED TO BUY

■ WANTED—"N" Sullivan drill. State condition, equipment and price. Martin and Hurley Drilling Co., Box 472, Carlsbad, New Mexico.

NEEDED—Alidades, plane table outfits, and Bruntons, for field parties. Must absolutely be in A-1 condition.

SCHWEER & HARDISON
426-428 Wichita Natl. Bank Bldg.
Wichita Falls, Texas.

NOTICES

■ ATTENTION — FISHERMEN - HUNTERS! Reservations for summer fishing parties and fall hunting parties are now being booked in the heart of the Jackson Hole country of Wyoming. Superior trout fishing, big game hunting, moose, grizzly and elk. Pack trips, etc. Landing facilities. Write Col. Marshall Purvis, C Heart C Ranch, Bondurant, Wyoming.

HELP WANTED

MICRO-PALEONTOLOGIST
Venezuela

To study well and surface samples in company laboratory in Caracas. College degree and at least 3 years' commercial experience required. Salary commensurate with experience. Living allowance in addition. Foreign experience and knowledge of Spanish desirable. Write, giving details of training, experience and salary requirements to:

The Atlantic Refining Co.
RM. 900, BOX 7258
PHILADELPHIA 1, PA.

Oil company has excellent situation for seismic party chief or interpreter desiring permanent location. Please give age and experience. Address: Box 62 c/o The Oil Weekly, Houston, Texas.

Report changes of address promptly

Only in that way can you be sure of receiving without interruption all the practical, on-the-job help regularly published in The Oil Weekly.

THE OIL WEEKLY
P. O. Box 2608 **Houston 1, Texas**

Read the
Trading Post
For Sale and Service

MEN IN THE INDUSTRY NEWS

Judge E. E. Townes will speak before the Houston Chapter of API June 24 at 6:30 p.m. in the Texas State Hotel on "History of Oil and Gas Law." Judge Townes was among the organizers of Humble Oil & Refining Company and in 1933 became a vice president of the firm in addition to his duties as director and general counsel. He also was one of the founders of South Texas School of Law and a former dean of the school.

»

George M. Straughan, Abilene, Texas, district geologist for Magnolia Petroleum Company, resigned to acquire an interest in the J. E. Gray Drilling Company.

»

George W. Ray, Jr., general attorney for Arabian American Oil Company since 1942, has been appointed general counsel.

»

H. Smith Clark, who resigned recently as the Fort Worth division geologist for Sinclair Prairie Oil Company, has established an office in the Sinclair Building, Fort Worth, to operate as a consultant in petroleum engineering and geology.

»

M. H. Dubrow, petroleum engineer for the Fort Worth region, has been named chief petroleum engineer, a new position for the department, and is succeeded in his former position by **S. V. McCollum,** division petroleum engineer at Midland.

Selden R. (Doc) Self has resigned as district geologist of Amerada Petroleum Corporation in Houston after 19 years' service in the geological department. After graduating from Texas Christian University in 1928, Self joined Amerada in West Texas doing production geology, field work, and subsurface work. He was transferred to Tyler in 1935 and a year later became district geologist in the Tyler office. He went to Houston as district geologist in 1944. Self plans to operate independently.

Selden R. Self

»

Frank Lovering has been transferred from Hobbs, N. M., to Denver as Rocky Mountain Division production superintendent for Phillips Petroleum Company.

»

John C. Agnew has been named assistant secretary and assistant treasurer of Sun Oil Company and **John E. Rohrer** will succeed him as manager of the payroll department. Agnew will serve in addition to **H. W. Unruh,** who has been assistant secretary and assistant treasurer since 1931. Agnew joined Sun as an auditor in 1920.

Edward R. Valentine, vice president of Fullerton Oil Company, has been elected Southern California regional vice president of the California State Chamber of Commerce.

»

S. Z. Natcher has been appointed assistant to Vice President **Floyd Bryant** of Standard Oil Company of California. Natcher will headquarter in Los Angeles.

»

Leland W. Jones, member of the geological department for Anderson-Prichard Oil Corporation, Oklahoma City, has resigned to become a consultant. He has set up temporary offices at Edmond.

»

Charles F. Thomas, district clerk for Continental Oil Company, Shawnee, Okla., has completed a history of the West Edmond field, which will appear in the company's publication in the near future.

»

Kenneth D. Vandervort, chief accountant, Amerada Petroleum Corporation, has been elected president of the Petroleum Accountants Society for the 1947-1948 fiscal year. Other officers elected are first vice president, **John F. Baumgaertner,** The Ohio Oil Company; second vice president, **E. C. Rogers,** Union Oil Company of California; secretary-treasurer, **Harold D. Osborn,** General Petroleum Corporation.

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NO MATTER what your pumping problem may be, Lockett Dealers — from warehouses located at, or near, the principal oil fields of Texas and Louisiana, and backed by a large replenishing stock at our Houston and New Orleans Warehouses — can supply complete pumping units for every pumping need.

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New Orleans

(A)

J. G. Schaafsma has been named assistant to the manager of the laboratories department for General Petroleum Corporation. **Bert Folda, Jr.,** has been promoted to a position bearing the same title. The laboratories' process and economics sections will report to Schaafsma. Folda will supervise the chemical and lubricants section as well as the Vernon Control Laboratory.

»

John Hamman, Jr., geologist, and president of Hamman Oil & Refining Company, Houston, was elected to the board of directors of Union National Bank, of which **George Hamman** is president.

»

Wallace Hanson has accepted a position as assistant field geologist with Schweer & Hardison, Wichita Falls, Texas. Hanson has been taking graduate work in geology at the University of Oklahoma and is being sent to New Mexico to assist **Georges Vorbe.**

»

Percy Evans, chief geologist, Burmah Oil Company, London, England, has been awarded the Murchison Medal of the Geological Society of London.

»

R. G. Searight recently succeeded **D. R. Mackintosh** as general manager of the Shell Oil Company of Egypt, Ltd., and of Anglo-Egyptian Oilfields, Ltd. He has been with Shell since 1928.

»

Robert M. Gray, manager of the advertising and sales promotion department of Standard Oil Company of New Jersey, was appointed chairman of the outdoor advertising committee of the Association of National Advertisers.

»

Gerald FitzGerald was appointed chief topographic engineer of the U. S. Geological Survey, succeeding T. P. Pendleton, retired, who held the position from 1943. FitzGerald's connection with the survey began in 1917. A specialist on reconnaissance mapping, he organized and assisted in the original development of "trimetrogon mapping."

»

Ray H. Horton, industrial relations manager for Humble Oil & Refining Company, attended the industrial relations sessions of the National Association of Manufacturers at Saranac Lake, N. Y.

»

Robert C. Meadearis, under **J. P. Magoffin,** Mid-Continent district manager for Patterson-Ballagh, Division of Byron-Jackson Company, will serve customers of that area out of Houston. He has been with Patterson-Ballagh since 1933, except for four and one-half years of service during World War II.

»

R. A. Day has joined Guiberson Corporation and will have sales headquarters in Tulsa. He was previously a member of the sales department of Oil Well Supply Company, Illinois sales representative for Miller Sand Pump Company, and store manager for The National Supply Company in the Mid-Continent area.

Howard L. Ginaven has been appointed general superintendent of Goodyear Tire & Rubber Company's plant in Wolverhampton, England. Ginaven joined Goodyear here in 1934, starting on the production training squadron. He has held several posts in the development division and during the war he was assigned to military products engineering. Since 1944 he has been on the foreign operations staff as assistant to Hinshaw.

»

V. W. Mitchell, assistant district manager for Republic Supply Company at Jackson, Miss., has been transferred to Republic's Wichita Falls, Texas, store.

Joe Cannon has been transferred from Goodwell, Okla., where he has been store manager for Green Head Bit and Supply Company. He has been promoted to assistant manager and elected a vice president and will be located in the Oklahoma City headquarters office. **Lon Belcher,** Oklahoma City store salesman, has become store manager at Goodwell.

»

Hamilton Johnson, former engineer for Schlumberber Well Surveying Corporation at Ardmore, Okla., has resigned to join a seismograph company in Venezuela.

Curb Corrosion

...by using TRANSITE PIPE for salt-water disposal lines

OIL men know Transite as the pipe that curbs corrosion . . . outside, inside and all the way through! It has proved remarkably resistant to the corrosive action of salt water on the inside, corrosive soil on the outside. That's why you'll find this asbestos-cement pipe so widely used for salt-water disposal lines.

Transite has other important advantages, too. Light in weight, it is easily handled—most sizes can be unloaded and lowered into the trench without mechanical handling equipment. Its factory-made Simplex Couplings speed assembly, provide joints that *stay* tight in service. Flexible, they permit laying the pipe around curves without special fittings.

If you want to save on installation, reduce maintenance and eliminate frequent pipe replacements on your salt-water disposal lines, specify corrosion-resistant Transite Pipe. Write Johns-Manville, Box 290, New York 16, N. Y.

JM PRODUCTS

See us in Booths 18 and 19 at the National Association of Corrosion Engineers Conference, Palmer House, Chicago, April 7-10.

Johns-Manville
TRANSITE PRESSURE PIPE

Frank J. Ackman has resigned from Standard Supply and Hardware Company of New Orleans and will be Mississippi representative for The DeLaney Company of Houston.

»

Charles G. King, Jr., has been promoted from assistant district manager to district manager of the Texas Gulf Coast area for United Supply & Manufacturing Company, succeeding **B. B. Curry,** resigned. King, whose headquarters are in Houston, has been with the company for the past two years.

Eugene L. Craig has been named sales manager for the International B. F. Goodrich Company in the Territory of Hawaii. With headquarters in Honolulu, he will have charge of the sales of all the company's products in the Hawaiian Islands. He joined the company as a messenger in 1936.

»

J. N. McKean, safety and personnel director of The Cabot Companies at West Texas headquarters in Monahans, has resigned to become editor and publisher of a newspaper at Odessa, Texas.

Because they have built into them the vital, extra capacity for smooth, dependable, trouble-free operation under the severest stresses and strains to be encountered in the world's most powerful machinery, AMERICAN SUPER HEAVY-DUTY ROLLER BEARINGS have been first choice for over 25 years with most manufacturers of heavy industrial and oil country equipment. Brutally strong, simply constructed, precise—AMERICANS give continuous, 24-hour-a-day service for maximum periods with minimum maintenance, often outlasting the equipment itself. Once adopted, no manufacturer has ever had to switch from AMERICANS.

Write for specifications or send us your requirements for analysis and recommendations. Our engineering experience is at your service without obligation.

AMERICAN ROLLER BEARING COMPANY
PITTSBURGH, PENNSYLVANIA
Pacific Coast Office: 1718 S. Flower Street, Los Angeles, California

AMERICAN
Heavy-Duty **ROLLER BEARINGS**

J. G. Van Nest, who at 36 has had 19 years of service with Mack Truck Company, has been named assistant to **O. L. Lear,** purchasing agent at Mack's Allentown, Penn., plant. Van Nest joined Mack in 1928 as clerk in the purchasing department at Plainfield, N. J., and became successively buyer of finished materials and assistant to **J. W. Rogers,** Plainfield purchasing agent.

»

Glenn Forgan, G. L. Rowsey and **Harris A. Melasky** have been elected to the board of directors of Petroleum Heat & Power Company. Rowsey is president and Melasky vice president of Taylor Refining Company, which has been acquired by Petroleum Heat and Power. Taylor will continue its corporate existence in Texas and its activities will be handled from the general offices at Taylor, Texas.

»

George Toth, formerly district sales engineer for Socony-Vacuum Oil Company in North and South Carolina, has joined the sales staff of the R. H. Sheppard Company, manufacturers of Sheppard diesel engines. Toth has been assigned to the southern sales territory covered formerly by **Ed MacFarland,** who will be transferred to the Eastern and New England area.

»

Ellis H. Scobey has established a district office for Southern Minerals Corporation at Midland, Texas. Scobey, geologist, is a graduate of the University of Iowa. He was formerly with Bay Petroleum Corporation in West Texas and prior to that time had six years' experience with Gulf Oil Corporation in Illinois.

Deaths

Jim Hatchett, 58, chief engineer for Magnolia Pipe Line Company in the Kilgore sector of the East Texas field and an employe for 34 years, died June 11 of complications arising from a recent operation.

»

Harry F. Couch, 51, vice president and field superintendent of the Trumter Petroleum Corporation and an employe for ten years, died June 14 at Gainesville, Texas.

»

Col. Vassily S. Zavoico, 75, Russian industrialist, diplomat and director of several oil companies during the Czarist regime, died June 8 in New York. Before his retirement in 1937 Colonel Zavoico was foreign representative of Bethlehem Steel Company, with offices in Paris.

»

Joe E. Cooper, 52, drilling contractor, died in Tulsa June 14. A native of Kentucky, he had been an Oklahoma resident since 1914. At the time of his death he was operating two strings of tools and was drilling for the Gillespie Oil Compnay.

Production of Giant Gas-Engine Driven Compressors Under Way

Production of the largest gas engine-driven angle compressor in the world, expected to effect substantial savings in installation and piping costs in the natural gas transmission and processing industries, is under way in the Mount Vernon, Ohio, plant of The Cooper-Bessemer Corporation.

Five of the new units, known as the "Type GMW," have been ordered by Panhandle Eastern Pipeline Company to meet demands for natural gas in the Eastern and Mid-Western industrial areas, according to Stanley E. Johnson, Cooper-Bessemer vice president and director of sales.

The new "Type GMW" is a two-cycle V-type engine and is available in six, eight, and ten-cylinder sizes. With an 18-inch bore and 20-inch stroke it is rated 240-horsepower per cylinder at a speed of 250 revolutions per minute.

The unit was designed so that it performs equally well as a gas or diesel power engine or as a gas engine-driven compressor. Since the compressor crosshead beds are not necessary to the scavenging system, they are removed from a unit used for power application, thus increasing the space-saving possibilities.

National Supply to Celebrate 60th Anniversary of Springfield Plant

Plans are under way for observance in 1948 of the 60th anniversary of The National Supply Company's Superior Engine Division plant in Springfield, Ohio. An observance committee, consisting of W. F. Tiemann, works manager; Robert M. Pearson, manager of sales; George F. Noltein, chief engineer; George F. Wells, plant controller; and Herman Houston, of the sales department, has been appointed.

The Superior Engine plant, which produces diesel and gas engines used in the oil fields, and diesel engines for municipal and private power plants and marine services, grew from a small machine and repair show established by P. J. Shouvlin in Springfield in 1888.

The rise of the automobile industry, coupled with the discovery and exploitation of other oil fields, led to steady expansion of the Springfield plant. Manufacture of a line of low-compression semi-diesel oil engines was begun there in 1920, and the firm subsequently purchased the Otto Engine Works, Philadelphia, to move into diesel engine production.

Since its return to peacetime production, the Springfield plant has been undergoing a general expansion and improvement program to increase its production of heavy-duty diesels and gas engines.

Minneapolis-Honeywell Opens Office

Minneapolis-Honeywell Regulator Company has opened a branch office at 1357 N. Street, Fresno, Calif., according to C. L. Peterson, Pacific regional manager. Clyde N. Bradley, until recently in Honeywell's San Francisco office, has been appointed district representative for the firm.

Franks Manufacturing Officials Meet

The Franks Manufacturing Corporation's Sales and Service executives and branch office managers held their first postwar meeting coincidental with the announcement that Franks portable servicing units and rotary rigs will be sold through supply stores, except export and in California. Left to right, back row, are Clair Simmons, L. E. Ferguson, M. G. Scott, S. E. Corry, Carl White, Jr., president, and R. E. Kirberger, sales manager. Center row Albert Hastings, V. K. Chapman, Joe Byrd and A. J. Rogers. Front row Vern Alley, Doug Lawrence, Tommy Knoblock, Leslie Brooks of Brooks-Keefe Advertising Agency, Ken Lamer, and Mike Pallein. Not in the photograph are George Lewis, John Howard, Don Turner and John Leyh.

Allis-Chalmers Announces Executive Appointments

William A. Roberts and William C. Johnson have been appointed executive vice presidents, respectively, of the tractor and general machinery divisions of the Allis-Chalmers Manufacturing Company.

Also Marshal L. Noel, was made vice president and general sales manager for the tractor division, and J. L. Singleton, a vice president and director of sales for the general machinery division.

Roberts, former vice president in charge of the tractor division, after a varied experience in selling and road construction, joined Allis-Chalmers in 1924 as a salesman, resigned to enter a partnership, and returned to the company in 1930. He became a vice president in 1944. Johnson entered the organization in 1924, and after holding many positions in the sales program was placed in charge of sales for the general machinery division in 1942. He was named a vice president in 1944.

Promotions Announced in Koppers Piston Ring Division

John A. Worthington was appointed general sales manager of the Piston Ring Division of Koppers Company, Inc., and T. Latimer Ford was named to head a new company department devoted to replacement sales in the automotive, industrial, marine, oil industry and aircraft fields.

Worthington joined the Bartlett Hayward Company, now a Koppers Division, in 1916, and since 1925 has been manager of industrial sales and engineering. Ford joined Bartlett Hayward in 1908 as a clerk, and became assistant secretary and treasurer of American Hammered Piston Ring Company in 1919. He was manager of the Pacific Coast district sales of the company from 1921 to 1927, when he became vice president and sales manager. When American Hammered was consolidated with Koppers in 1936, he was made sales manager of Kopper's automotive division.

Cameron Iron Works' Oil Show on Wheels

Cameron Iron Works of Houston has outfitted a specially built trailer which can be towed to the field for on-the-spot demonstration of Cameron products.

Since the design of oil field equipment changes rapidly, particularly well head equipment, this oil show-on-wheels should help to keep the man in the field well acquainted with Cameron's new lines. A complete Cameron Forged Steel Christmas Tree, casing and tubing hangers and strippers, a new casing seal flange, two types of flow wings, shear-relief valve, mud line pressure gauge, flex-seal mud line valve and weight indicator, are products displayed in the trailer. All units are actual size and some shown in section so that their mechanical design can be studied and their operation easily understood.

Leeds & Northrup Unveil Memorial to World War II Dead

A memorial shaft in honor of 15 employes who gave their lives in the armed forces of the United States in World War II has been unveiled at the plant of Leeds & Northrup Company, Philadelphia.

Members of Dutch Helwig Detachment, Marine Corps League of North Philadelphia, named in honor of Herman Helwig, first Leeds & Northrup employe to die in the war, took part in the dedication ceremonies together with Charles S. Redding, president of the company, and Thomas Jarman, who was a prisoner of war for 18 months after being shot down over the Ploesti oil fields of Rumania. Jarman was a member of the Leeds & Northrup Memorial Committee, of which William F. Smith was chairman.

Republic Moves Store

Republic Supply Company, Houston, has moved its store at Griffin, Ind., to Grayville, Ill. T. J. McDonald is store manager.

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FITTINGS
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WELL WORKS COMPANY
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STANDCO BRAKE LINING
Stands the gaff and gets the job done without scoring brake rims. See pages 3608-3613, Composite Catalog.
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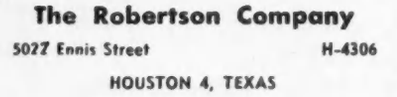

Drop-Forged • Heat Treated • 2 Sizes
Durbin-Boomer F-1—2 swivels, 3/4, 7/8 or 1" chain
Durbin-Boomer F-2—2 swivels, 1 1/4, 1 1/2 or 1 5/8" chain
Malleable Iron • Heat Treated • 5 Sizes
MIDGET No. 1—1 swivel, 1/4" chain
DELTA No. 1—1 swivel, 5/16 or 3/8" chain
DIXIE No. 1—2 swivels, 7/16 or 1/2" chain
LONE STAR 1—2 swivels, 7/16, 1/2 or 5/8" chain
LONE STAR 2—2 swivels, 7/16, 1/2 or 5/8" chain
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6611 Olive Street Road • St. Louis 5, Mo.

E. B. Fowks

Hugh H. Glen

E. B. Fowks Named Advertising and Sales Promotion Manager for Emsco

Two executive personnel changes were announced by Hugh H. Glen, president of Emsco Derrick & Equipment Company.

E. B. Fowks, former export sales manager, was promoted to manager of advertising and sales promotion. Associated with Emsco for 24 years, he has been active in both domestic and foreign fields. In his new position he will also retain jurisdiction over the patent department.

K. F. Forsyth

K. F. (Ted) Forsyth, manager of California sales, has succeeded Fowks as export sales manager. He has been affiliated with Emsco since 1924. He will have charge of both California and export sales.

Larkin Packer Company Adds Three Salesmen and Announces Transfer

Larkin Packer Company has added three veteran oil country specialists to its sales staff and transferred another salesman to an active new area, President W. H. Larkin announced.

The new salesmen are Joe Chastain, R. C. Fones, and Wiley Ford. G. F. Robinson was transferred from Mt. Vernon to Ardmore, Okla.

Chastain, who recently returned from Argentina where he was chief petroleum engineer, Northern Division, for Standard Oil Company of New Jersey, will make his headquarters in Midland.

Fones was formerly with Halliburton as a special tool operator. He recently worked in Venezuela for Halliburton. He will make his headquarters for Larkin in Lafayette, La. Ford is a former Franklin Supply Company employee. His sales territory will include the Illinois area, with headquarters in Mt. Vernon, Ill.

Sales Organization Appointments Announced by Ideco Officials

Announcement of appointments to the International Derrick and Equipment Company sales organization has been made by G. W. Walton, vice president, machinery and export division.

E. F. Shiels has been appointed sales engineer, machinery division, at Dallas. Shiels assisted in designing the PR-600 power rig now in production at Indeco Columbus plant. He also worked in the engineering department of Ideco at Beaumont where he concentrated on drilling equipment.

Blaine Johnston, Jr., has been appointed sales engineer, machinery and export division, at Dallas. He has been in the oil field equipment business for ten years, both in the Mid-Continent and California areas.

N. J. Herman has been appointed sales engineer, machinery division, at Dallas. He has been associated with the oil business for ten years and for the past two years has worked in the design section of Ideco and Clark Brothers at Olean.

Don J. Shaw has been appointed machinery sales representative, according to T. D. Collins, vice president, Mid-Continent direct sales. Shaw will handle equipment sales in Texas, Louisiana and Mississippi.

Grove City Appointments Made By Cooper-Bessemer Corporation

Appointment of J. F. Stevenson as assistant works manager of the Grove City, Penn., plant of The Cooper-Bessemer Corporation, succeeding the late M. A. Winland, was announced by T. J. McMichan, works manager. Stevenson was formerly production manager of the company's Grove City plant.

Other recent Grove City promotions include W. A. Luli, who was named production manager; R. H. Bragg, assistant production manager; H. K. Stevenson, general superintendent; and W. W. Richards, chief planner.

Calco Chemical Announces Major Promotions

Kenneth H. Klipstein, former director of new products development, was appointed assistant general manager in charge of the development department and V. E. Atkins as manager of manufacturing for the Calco Chemical Division, American Cyanamid Company.

Ames B. Hettrick, formerly assistant manager of the pigment department, was named assistant manager of manufacturing, and L. M. Phelps was appointed to the post of plant production manager, Bound Brook Plant, a position formerly held by Atkins.

25-Year Employes Honored

Fifty-nine new 25-year employes of the Manhattan Rubber Division, Raybestos-Manhattan, Inc., Passaic, N. J., were honored as Manhattan Pioneers at the third annual dinner of the organization May 25 at Mountain View, N. J. The dinner, attended by more than 500 Pioneers and their wives or husbands, also honored those Pioneers entering new five-year groups. The new class, the largest to reach the 25-year milestone in Manhattan's history, was presented by Dennis J. Fenelon, personnel manager, to Harry V. Snyder, factory manager, who presented them with gold Pioneer Pins.

SQUEAKS from the BULL WHEEL

Another Problem Solved

"Whatever happened," he mused, "to the old-fashioned girls who fainted when they were kissed?"

"And likewise," she came back, "whatever happened to the old-fashioned boys who made them faint?"

The Better Life

"Is you married?"
"No, Mandy, I'm a maiden lady."
"Is you got any chillun?"
"Certainly not!"
"Lawsy me! Ain't you lucky?"

The Woman's Way

"The lady says you tried to speak to her at the station," said the judge.

"It was a mistake," said the salesman. "I was looking for my friend's sister, whom I had never seen before, but who's been described to me as a handsome blonde with classic features, fine complexion, perfect figure, beautifully dressed, and . . ."

At which point the witness announced: "I don't care to prosecute the gentleman. Anyone might have made the same mistake."

Pardon, Pliz

"Iss potatoes in two kinds, male and fimmale?"

"Of course not. Why?"

"It's werry fonny—the Keptins tellink me I should peel two sex of potatoes."

This Curious World

Man is just a worm in the dust. He comes along, wriggles around a while, and then some chicken gets him.

She was only the butler's daughter—but how she enjoyed being maid!

Confucius say: Wash face in morning. Neck at night.

He winked at the elevator girl and she took him up on the ninth floor.

A true musician is a man who puts his ear to the keyhole when he hears a lady singing in the bathtub.

The end is not nigh when the patient takes a turn for the nurse.

The laziest man in California stands with a cocktail shaker in his hand and waits for an earthquake.

The reason women are always running through a wolf's mind is that they're afraid to walk.

He started on a shoestring and worked his way up—up—up until he got his face slapped!

Not the Woman's Way

"Women are trying to rule the world," said the auctioneer, "but none of them will ever want my job, thank goodness."

"And why not?" inquired the lady.

"Well, can you imagine a woman standing up before a crowd and saying, 'Now gentleman, all I want is an offer.'"

Threadbare?

"So you've worn that same coat on auto rides all over the country?"

"Yes, darling. This coat has really covered a lot of ground."

Poet's Nook

Girls who wear a midriff halter
Cause pure intentions to falter.

Easier to Get

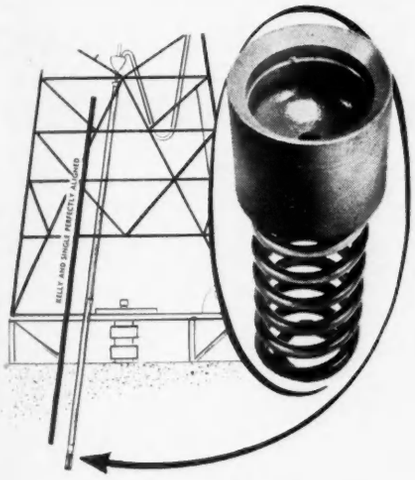
A neighbor, passing the cabin of a mountaineer, had the bad fortune to run over and kill the mountaineer's favorite dog. He went into the house and told the man's wife what had happened and how sorry he was. The owner of the dog was out in the fields, and the motorist decided he had better go out and tell him of the accident, too.

"Better break it to him easy like," said the wife. "First tell him it was one of the kids."

Desk Maneuvers

The pencil has made a number of pointed remarks about the sponge being soaked all day and the waste basket's being full. The scissors are cutting up, and the paper weight is trying to hold them down, while the mucilage is sticking around to see that the stamps get a good licking. The ink's well, but appears to be blue, while Bill is stuck in the file and the calendar expects to get a month off. Of course, the blotter has been taking it all in.

RATCLIFF "JOINT AIDS"
REDUCE TOOL JOINT WEAR



Used in the bottom of the mouse-hole, a "Joint Aid" absorbs most of the weight of the Kelly when it is set down on the single in the mouse-hole. Kelly and single are kept in alignment while connection is being made . . . galled threads are eliminated . . . connections are faster and easier . . . you're back on bottom *quicker* with a "Joint Aid" in the mouse-hole.

Inquire about them without delay . . . they're made for all popular sizes of pipe and tubing, for any size mouse-hole. Cost? . . . so low that it will be offset by the prevention of just one galled tool joint.

OWEN TOOL COMPANY
ROUTE 9 BOX 800-B V-2-4341
HOUSTON, TEXAS

WIPE SUCKER RODS CLEAN

Here's a compact Sucker Rod Wiper designed as Well Pullers wanted it. Short overall height, 4", just right height for wrenching rods. Weight complete, only 36#. Easy to handle, comes mounted on pony rod ready to be used, if so ordered. Tough, natural rubber wiping webs squeegee rod, box and square free of oil. No oil leaves hole or flips on crew... Rubbers stand enough pressure to take oil to tank or sump if well flows. Wipes any size rod, 5/8" to 1¼".

The Wiper Housing contains two rubber wiping elements. It is furnished complete to make up on all standard pumping tees. The Plain Cap type is shown above and the Table Plate Head model, below:

The cut away drawing shows sturdy construction of both types. The handy Table Plate Head holds rod tools and elevators.

Write for Catalog 310, code names and complete specifications or see your Patterson-Ballagh man.

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The Trading Post?

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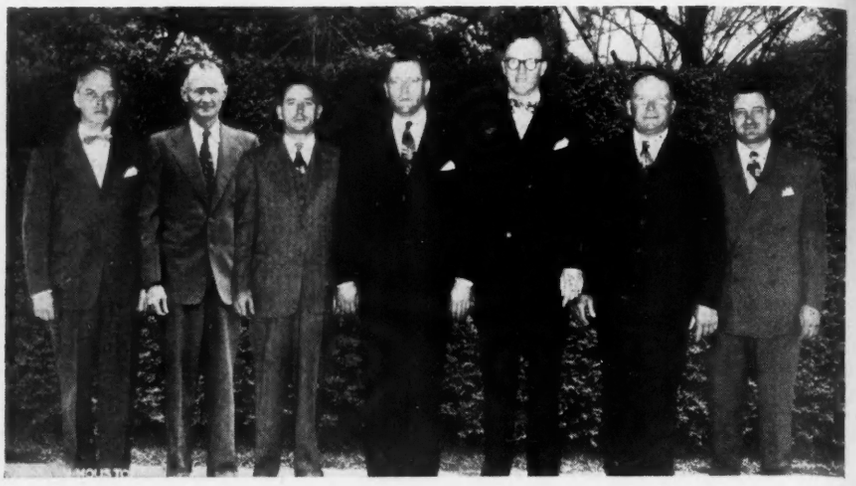
Oil Center Tool Observing Anniversary



Oil Center Tool Company, Houston, manufacturers of oil and gas well completion equipment, observes its 20th anniversary this summer, according to A. J. Penick, chairman of the company's board of directors, who plan an anniversary celebration in August. Officers and directors of the company, left to right, are B. V. Fisher, A. J. Penick, J. E. Edwards, C. B. White, J. F. Maher, Fritz Richards and J. E. Eckel.

Halliburton Field Personnel Changes

Key personnel changes in three of the organization's 11 field divisions have been announced by Halliburton Oil Well Cementing Company.

H. P. Hearn, who joined the company in 1925 as a truck driver and cementer's helper at Henderson, Texas, has been promoted from assistant superintendent to superintendent of the East Texas division, with offices in Kilgore and Dallas, replacing W. H. Baker, resigned.

Hubert L. Northcutt, superintendent of the South Texas division for the past two years, has been transferred from Houston to Flora, Ill., where he will direct the company's operations in Illinois, Indiana, Kentucky, Ohio, Michigan and West Virginia. Northcutt joined Halliburton in 1923 and served successively as cementer, fieldman, assistant superintendent and superintendent in the Gulf Coast area.

He will be replaced in the South Texas territory by H. P. Conroy, superintendent of the Eastern division at Flora since June, 1944, whose experience with Halliburton began in 1928.

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